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VOLUNTARY RELEASE PILOT PROGRAM: EFFECTS ON ATTRITION OF GENERAL DETAIL PERSONNEL

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VOLUNTARY RELEASE PILOT PROGRAM: EFFECTS ON ATTRITION OF GENERAL DETAIL PERSONNEL

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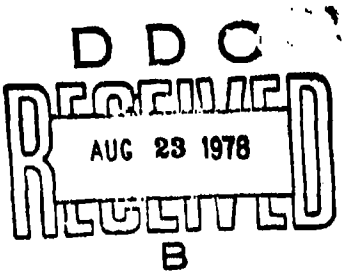

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1. It is requested that the following pen-and-ink changes be made in subject report:

a. Page 32: should read "Figure 6. Attrition over time by recruit quality index--Experimental and control groups."

b. Page 32: change the order of recruit quality indices in the legend for Figure 7, a. Experimental Group, and b. Control Group, to read, "Alpha, Bravo, Delta, Charlie."

c. Page 35: should read "Figure 7. Attrition over time by mental group category--Experimental and control groups."

d. Page 35: change the order of mental group categories in the legend for Figure 7, b. Control Group, to read, "Cat I & II, Cat III Upper, Cat IV, Cat III Lower."

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20. ABSTRACT (Continue on reverse side if necessary and identify by block number)

The attrition rates, performance, and discipline of first-term general detail personnel holding a voluntary release option were compared with those of a matched control group not holding such an option. Both groups included a sample of recruits who ordinarily would not meet minimum recruiting standards (DE/TAs) to assess the impact on attrition of recruiting such persons. After 23 months, 73 percent of the voluntary release eligibles had attrited, compared to 48 percent of the control group. Attrition rates for

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DELTAs were comparable to those of the total group. The majority of those who voluntarily separated from the Navy expressed dissatisfaction with Navy life.

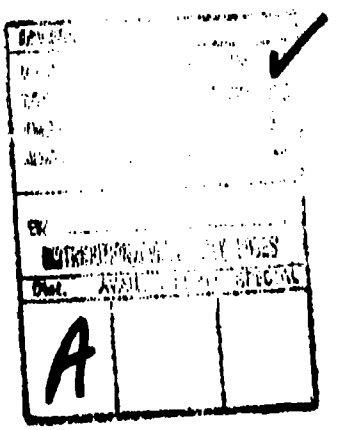
It was concluded that a blanket voluntary release option is not a prudent mechanism for controlling attrition of general detail personnel. Analysis of interviews held with both groups yielded information potentially useful in addressing the attrition problem.

FOREWORD

This study was conducted in response to a Chief of Naval Personnel request to provide a vehicle for analyzing the growing problem of premature first-term enlisted attrition. This report concerns the evaluation of a voluntary separation concept designed to "front-load" otherwise unavoidable attrition of general detail recruits. Subsequent reports will cover findings obtained by analyzing interaction variables and data provided by the Exit and the Recruit Background Questionnaires.

Appreciation is expressed to CAPT George C. Lowry, Director of Law Enforcement and Corrections Division (Pers-84), for coordinating and monitoring the study.

J. J. CLARKIN
Commanding Officer



SUMMARY

Problem

Approximately 1600 administrative discharges due to unsuitability or misconduct are presently being awarded monthly on a Navy-wide basis, representing a substantial manpower/training loss. It has been shown that a great majority of those receiving administrative discharges before their enlistment contract expired had been only marginally productive or had been disciplinary and supervisory burdens for a significant period of time prior to their discharge. Thus, policy and procedures are needed to provide for the early voluntary or involuntary release of personnel unsuited (by choice and/or performance) for naval service.

Objectives

The objectives of this effort were:

1. To compare attrition rates, performance ratings, and disciplinary records of personnel holding a voluntary release option with those of matched control personnel not holding the option.

2. To determine how demographic (e.g., age, race, quality index, etc.) and situational (e.g., entering rate) variables affect attrition. This includes assessment of the impact of accepting for enlistment a sample of recruits who ordinarily would not have met minimum recruiting standards based on educational level and mental group scores (i.e., those classified as DELTAs).

3. To validate a recruit background questionnaire (RBQ) as a predictor of successful completion of contracted enlistment agreement.

Approach

All male USN nonprior service apprentices with January 1976 current enlisted dates (CEDs) (N = 1165) were designated as the experimental group; and all similar apprentices with February 1976 CEDs (N = 973) served as the control group. The experimental group included 382 recruits classified as DELTA; and the control group, 318. Thus, the two groups were composed almost exclusively of general detail (GENDET) destined apprentices, who had historically shown the highest incidence of disciplinary and administrative problems.

All subjects were administered the RBQ during the last week of recruit training. This was a noncognitive questionnaire designed to obtain demographic information. Following recruit training, all subjects reported for apprenticeship training, a program designed to prepare them for their fleet duties. During the last week of this training, experimental subjects only were told that they had been selected to participate in a program studying the effects of voluntary discharge from the Navy. Under this program, subjects could employ a voluntary separation option to be separated immediately during the period between completion of apprenticeship training and completion of 181 days of total active duty. After that time, they could request voluntary separation by giving the Navy 6 months' notice.

Before subjects who exercised their voluntary release option were separated, they completed an Exit Interview and an Exit Questionnaire. The former requested the subject to give his main reason for leaving the Navy; and the latter, to rate various aspects of Navy life. In August 1976, when 1458 of the original sample of 2138 still remained on active duty, COs of both experimental and control subjects were asked to rate their performance and to list all disciplinary actions noted.

Initial differences between the experimental and control groups in regard to demographic and situational variables were determined, and RTCs were compared as to quality of initial total input and experimental and control groups within that input. Overall attrition for the two groups was determined, as well as attrition by the various demographic and situational variables. Results were then analyzed to determine the types of separation (honorable vs. less than honorable) and loss (released vs. deserted) within attrited groups, and the distribution of attrition over time (up to 23 months). Finally, the two groups were compared as to performance ratings obtained in August 1976 and disciplinary actions taken.

Data obtained through the Exit Interview Form were analyzed. Results obtained by analyzing data from the Recruit Background and Exit Questionnaires will be provided in a subsequent report.

Results

1. At the end of 23 months, 73 percent of the experimental group had attrited, compared to 48 percent of the control group. Further, the availability of a voluntary out option significantly increased the proportion of honorable separations (81 vs. 36% for the control group), and decreased the incidence of desertions (2 vs. 17% for the control group).

2. Results of analyzing demographic and situational variables are shown below:

a. Type of initial duty station--Overall, those assigned to aircraft carriers, support craft, and amphibious craft had the highest attrition rates; and those assigned to air squadrons, the lowest.

b. Age at enlistment--In both groups, those who enlisted at 17 years of age had the highest attrition rates and the highest proportion of less than honorable discharges. Lowest attrition rates were experienced among experimental group members who enlisted at 20 years or older and control group members who enlisted at 19 years or older.

c. Racial composition--In both groups, Caucasians had higher attrition rates than did minorities. However, a higher proportion of minorities than Caucasians received less than honorable discharges.

d. Number of dependents--In both groups, those with no dependents had lower attrition rates than those with one or more dependents.

e. Years of formal education completed--In both groups, those with 10 or fewer years of education had the highest attrition rates; and those with 12 years or more, the lowest. Further, the more years of education a man had completed, the more likely he was to be honorably separated.

f. Educational level attained--In both groups, the highest attrition rate occurred among those who held a GED certificate; and the lowest, among high school graduates. High school graduates also had the highest proportion of honorable discharges and the lowest incidence of desertion rates.

g. Mental group category--In both groups, those in the highest mental group categories had the highest attrition rates; and those in the lowest category, the lowest.

h. Recruit quality index--In both groups, those classified as CHARLIE (non-school qualified, high school graduates) had the lowest attrition rate; and those classified as BRAVO (school qualified, non-high school graduates), the highest. Attrition among men classified as DELTAs closely paralleled overall attrition. Twenty-three months after enlistment, 76 and 50 percent of the DELTAs within the experimental and control groups, respectively, had attrited. Of DELTA attritees, 83 and 32 percent of the experimental and control groups, respectively, had been honorably separated, and 3 and 20 percent of the two groups had deserted.

i. Entering rate--In both groups, Seamen had the highest attrition rates, followed by Firemen and Airmen. Firemen had the highest percentage of less than honorable discharges.

j. RTC attended--In both groups, those attending RTC San Diego had the lowest attrition rates.

In the above analyses, it was noted that older high school graduates with lower academic ability had significantly lower attrition rates.

4. The availability of a voluntary out option had strong positive effects on the performance of experimental subjects. Four times as many experimental group subjects as control group subjects received performance ratings of "outstanding" or "above average." Also, they had half as many unauthorized absences, and lower rates in other offenses.

5. On the Exit Interview form, nearly half of experimental subjects being separated indicated that they left because of "unmet expectations" of Navy life. Others left because of personal problems and lack of opportunities for education and training.

Conclusions

Because of the high loss rate experienced in the experimental group, it is clear that a blanket voluntary release opportunity is not a prudent mechanism for controlling and/or front-loading attrition for GENDET enlisted personnel. If the present attrition rate is projected over the remaining 2-year period, it appears that nearly all of this group will be lost via the pilot program by 1980. However, even though this blanket opportunity has sufficient negative components to preclude its adoption, its redeeming values should be recognized. For example, those with the option had substantially higher performance ratings and lower incidences of nonjudicial punishments, unauthorized absences, and desertion rates than those who did

not. Recognising the many unique requirements of naval service, the right to decide to leave a job, especially one possessing minimum positive attributes, is a worthwhile concept that merits further evaluation.

Recommendations

1. For GENDET duties, target recruitment at older enlistees who have lower academic ability and who have had some experience in the civilian job market following high school.

2. Continue to recruit high school graduates; avoid equating GED certificate holders with high school graduates for attrition prediction purposes.

3. In recruiting prospective GENDETS, attempt to reduce unrealistic expectations for fleet duty.

4. Provide shorter enlistment tours for those assigned to GENDET jobs.

5. Provide special reinforcers for satisfactory performance by GENDETS.

6. Continue to develop noncognitive devices to identify high- and low-risk individuals (i.e., for predicting successful completion of contracted enlistment agreements).

7. Expand and modify apprenticeship training curricula, so that GENDETS are better prepared for and oriented to fleet duty.

8. Provide quality shipboard orientation procedures for newly reporting GENDETS.

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INTRODUCTION

Problem and Background

In February 1975, the Chief of Naval Operations (CNO, Note 1) established a Task Group for the purposes of (1) studying a proposed alternative to the current naval corrections system, and (2) addressing various aspects of recruiting, recruit training, remedial education, and administrative and legal procedures that impact on the corrections system. The Task Group was chaired by CAPT G. C. Lowry, Bureau of Naval Personnel (Pers-84).

At the initial meeting of the Task Group, members decided to request the Center for Naval Analyses, the Navy Personnel Research and Development Center, and the Naval Health Research Center to provide descriptive data pertaining to ongoing studies of devices for preenlistment screening of prospective Navy personnel. Subgroups were formed within the Task Group to study the data provided by the three Centers, to evaluate the use of prescreening devices in increasing overall recruiting effectiveness, and to develop alternatives to or recommendations for methods of expediting the discharge of individuals unsuited for naval service.

In March 1975, the Task Group submitted its report (Note 2) to CNO. The group concluded that "The present system for recruiting, corrections, and administrative discharge, in a peacetime, all-volunteer force environment, results in nonproductive manpower and administrative costs of at least $228,000,000 annually." Further, it noted the following:

1. Approximately 30 percent of all enlistees fail to satisfactorily complete their initial enlistment contract.

2. Present corrections facilities have excessive capacity, are misused, and, except for purposes of detention, have not been measurably effective in the sense of deterrence or rehabilitation.

3. The use of confinement as a deterrent, punishment, or corrective device for individuals convicted of repeated or long-term periods of unauthorized absence is ineffective and costly.

4. Current administrative discharge procedures are not sufficiently flexible to permit timely and administratively efficient release of nonproductive individuals, and contain no method by which an individual may obtain release from an enlistment contract, other than for reasons of hardship.

To address these problems, the Task Group recommended that:

1. A study be made to evaluate existing personality inventories (tests that provide a personality profile based on an individual's past history, attitudes, and interactions with his environment) with the purpose of selecting such a test for use by Navy recruiters. This test would not replace screening tools currently in use but, rather, would be used to supplement the enlistment standards now in effect.

2. Policy and procedures be established to provide for the voluntary or involuntary release of personnel unsuited (by choice and/or performance) for naval service. Under the present system, approximately 1600 administrative discharges due to unsuitability or misconduct are being awarded monthly on a Navy-wide basis, representing a substantial manpower/training loss. It has been shown that a great majority of those receiving administrative discharges before their enlistment contract had expired had been only marginally productive or had been disciplinary and supervisory burdens for a significant period of time prior to discharge. A disciplinary burden is an individual who has been convicted/awarded three or more courts-martial/nonjudicial punishments or a combination thereof within a 3-month period; and a supervisory burden, one who, despite repeated counseling efforts and intensive on-the-job supervision and guidance, continues to perform below acceptable standards, demonstrating a continued lack of motivation.

To facilitate the discharge of those determined to be unsuitable by their Commanding Officers (COs), the Task Group recommended that COs be granted authority to discharge personnel with 24 months or less service who were determined to be "UA prone" or "administrative burdens." A UA-prone individual is one who is cited for four or more unauthorized absence offenses within 1 year or is UA for more than 29 cumulative days in 1 year; an administrative burden is an individual who requires inordinate command attention and/or is not advantageously employable.

Note: Closely associated with the UA problem is the increase in Navy desertion rates (a deserter is one who has been UA over 29 days at any single period of time). These rates have increased from 13.6 per 1000 persons in FY73 to 31.7 per 1000 persons in FY77.

3. The present corrections policy be revised to exclude confinement for UA offenses. The Group noted that "Of the 1300 Navy personnel now incarcerated in Navy correctional centers, less than 8 percent are charged with or convicted of felonies and/or serious misdemeanors. Approximately 75 percent of the remaining 1200 prisoners are under sentence or awaiting trial for violation of a UA-related article of the Uniform Code of Military Justice."

4. A coordinated Plan of Action and Milestones (POA&M) for an enlisted voluntary separation program be implemented.

In May 1975, Pers-84 personnel briefed the Chief of Naval Personnel, VADM Watkins, concerning enlisted personnel attrition problems. As a result, VADM Watkins approved research plans aimed at determining whether it was possible (1) to front-load first-term enlisted attrition among general detail (GENDET) personnel, and (2) to identify, document, and quantify why first-term attritees become disenchanted in an all-volunteer environment (as reflected in their high attrition rate). He requested that a detailed POA&M for the implementation of a voluntary separation pilot program be prepared in order to analyze these growing problems. Consequently, in August 1975, Pers-84 requested NAVPERSRANDCEN to prepare this POA&M. Further, Pers-84 requested CNO (OP-96) (1) to analyze the costs/effects of a policy proposal concerning separation procedures designed to expedite the discharge of individuals unsuited for naval service by choice and/or performance, and (2) to comment

on the optimal size of a pilot program cohort. NAVPERSRANDCEN responded with a detailed POA&M, covering program concept, report schedule, and action date milestones. CNO (OP-96) submitted its report in September 1975 (Note 3). Concluding remarks are provided below:

> The earlier separations [would] provide cost savings to the Navy resulting from the difference between investment cost and return on investment, and a reduction in load on the disciplinary and corrections system. In terms of net investment, cost savings of $381.2 million at the end of a 4-year period could be realized. A corresponding 50 percent reduction in the number of administrative discharges, nonjudicial punishments, and courts-martial would provide an annual cost savings of $4.7 million, and man-hour savings of 642,725.
>
> A pilot program cohort to evaluate the voluntary separations proposal should consist of a sample size of at least 600 recruits in the eligible group at each Recruit Training Center from a monthly accession input. This would require minimum individual RTC monthly accessions of 1856 with a corresponding minimum monthly total accessions of 5568. An entire month's accession input is recommended for ease in administration and tracking.

The POA&M and CNO analysis data were forwarded to CNP and approval was granted to initiate the pilot program in January 1976. NAVPERSRANDCEN was designated to act as primary manager for conduct of the study, data collection, and analysis stages; and Pers-8, to act as primary agent for CNP for coordinating and monitoring.

Objectives

The objectives of this effort were:

1. To compare attrition rates, performance ratings, and disciplinary records of personnel holding a voluntary release option with those of matched control personnel not holding the option.

2. To determine how demographic (e.g., age, race, quality index, etc.) and situational (e.g., entering rate) variables affect attrition. This includes assessment of the impact of accepting for enlistment a sample of recruits who ordinarily would not have met minimum recruiting standards based on educational level and mental group scores (i.e., those classified as DELTAs).

3. To validate a recruit background questionnaire (RBQ) as a predictor of successful completion of contracted enlistment agreement.

METHOD

Program Concept

The program concept, as outlined in the Plan of Action and Milestones (POA&M) prepared by NAVPERSRANDCEN, appears below:

1. The experimental group will be composed of all male USN nonprior service (NPS) apprentices with January 1976 current enlisted dates (CEDs); and the control group, of all similar apprentices with February 1976 CEDs.

2. Both groups will include a special component of DELTA recruits, in order to provide a broad study base and the capability to predict attrition related to these normally unacceptable accessions.

3. The experimental group will be permitted "voluntary out" options; the control group will not.

In regard to 2 above, Navy applicants are classified within four categories or quality indices: ALPHA, BRAVO, CHARLIE, and DELTA. The A and B groups comprise those who are classified as "A" school eligibles because they have attained at least the 49th percentile on the Armed Forces Qualification Test (AFQT); the difference between the two groups is that A group recruits are certified high school graduates or GED equivalent, while B group recruits did not finish high school. The C and D groups are not "A" school eligible because they did not attain sufficiently high AFQT scores; C group members did complete high school and D group members did not.

To ensure that the January and February accessions would include sufficient C and D group members to support the research program, the Commander, Navy Recruiting Command (Note 4) issued a directive stating that the accession mix for those months only would comprise 80 percent Group A plus Group B, 10 percent Group C, and 10 percent Group D. The directive further stated that "meticulous care must be taken (during recruitment and recruit training) to avoid speculation or statements concerning the research which could be construed as promises or guarantees, or which may indicate that the recruits will be involved in a special research program."

Subjects

In accordance with the above concept, the experimental group (N = 1165) included all male, NPS recruits who enlisted in the regular Navy for 4-year terms of active duty during January 1976 and who were slated to attend Apprentice School (i.e., for Seaman, Fireman, and Airman) rather than "A" School.[1] The control group (N = 973) included all similar February 1976 accessions. The experimental group included 382 recruits classified as DELTA;

[1]Apprentice training is a 2-week program designed to prepare enlisted personnel for general detail fleet assignments (i.e., unskilled or semiskilled duty) as Seamen, Airmen, or Firemen. "A" schools provide at least 4 weeks of basic technical and skill training in the Navy's various job specialities, thus preparing trainees to work in a specific Navy rating.

and the control group, 318. Thus, the two groups were composed almost exclusively of general detail (GENDET) destined apprentices, who had historically shown the highest incidence of disciplinary and administrative problems.

Procedure

All subjects were administered the Recruit Background Questionnaire (RBQ) during the last week of recruit training. This 82-item noncognitive questionnaire was a refined and reduced version of the RBQ tested by Atwater, Skrobiszewski, and Alf (Note 5), and covered such areas as the recruit's previous school and job history, family background, and reasons for enlisting in the Navy. Following recruit training, all subjects reported for apprenticeship training.

During the last week of apprenticeship training, experimental subjects only were informed that they had been selected to participate in a program studying the effects of voluntary discharge from the Navy and that this selection was based on the date of their enlistment (no indication was given that the study group was limited to those who were not slated for "A" school). They were assured that their participation in the program would not affect their Navy careers (i.e., duty stations, job assignments, promotions, etc.) and that the only difference between them and other enlisted personnel was that they could leave the Navy if they wished. In this regard, experimental subjects had the following options:

1. During the time period between completion of apprenticeship training and before they had completed 181 days of total active duty, they could employ their voluntary separation option to be separated immediately. Thus, within the second 3-month period of their enlistment contracts, they virtually had a "walkaway" provision to leave the Navy.

2. After they had completed 181 days (6 months) of active duty, they could request voluntary separation by giving the Navy 6 months' notice of their intention to separate. When this option was employed, the individual's Commanding Officer could either release him immediately or hold him for any portion of the 6-month term of notice.

These two voluntary release periods were designated as Phase I (less than 181 days) and Phase II (181 days or more) of the study.

At all times, requests for voluntary separations--for both Phase I and Phase II--were subject to the following constraints:

1. A subject deployed on a cruise could not be separated until he had returned to the United States.

2. A subject stationed overseas could not be separated until he had completed a minimum tour of overseas duty.

3. Under emergency conditions, a subject's voluntary separation option could be withdrawn for a period of time, as determined by the Bureau of Naval Personnel (BUPERS).

Those individuals separated under the provisions of the program received an honorable discharge, unless the character of their service record indicated otherwise. In addition, they were assigned a reenlistment code of RE-4 (indicating that they were not eligible to reenlist without prior BUPERS approval) and a discharge code of KCC (general demobilization--reduction in authorized strength). These codes were employed to facilitate long-term tracking of personnel who exercised their voluntary release option. Before these subjects were separated, they were requested to complete an Exit Interview Form and an Exit Questionnaire, both of which were designed for this study. The former requested the subject to indicate, in his own words, the main reason for his decision to leave the Navy; and the latter required him to rate, on a five-point scale, 20 aspects of Navy life (e.g., living conditions, counseling received, etc.) during three stages of his Navy enlistment (recruit training, apprenticeship training, and first job assignment).

During August 1976, COs of both experimental and control subjects were asked to rate their present and potential performance on a five-point scale ranging from Unsatisfactory to Outstanding. Also, they were asked to list all disciplinary actions noted in subject's service record from enlistment to date.

Analyses

Initial differences between the experimental and control groups in regard to demographic and situational variables were determined, and RTCs were compared as to quality of initial total input and experimental and control groups within that input. Overall attrition for the two groups was determined, as well as attrition by the various demographic and situational variables. Results were then analyzed to determine the types of separation (honorable vs. less than honorable) and loss (released vs. deserted) within attrited groups, and the distribution of attrition over time (up to 23 months). Finally, the two groups were compared as to performance ratings obtained in August 1976 and disciplinary actions taken.

Data obtained through the Exit Interview Form were analyzed. Results obtained by analyzing data from the Recruit Background and Exit Questionnaires will be provided in a subsequent report.

RESULTS

Comparisons of Demographic and Situational Variables

Table 1, which provides demographic variables for both experimental and control groups, indicates that there were no significant differences between them as to age at enlistment, racial composition, number of dependents, years of formal education completed, and educational level attained. As shown, over half of each group enlisted at age 17 or 18; the racial composition of both groups was nearly identical and representative of the total Navy general detail (GENDET) population (i.e., 85% Caucasian and 15% Black and other racial/ethnic minorities); and over 90 percent of each group had no dependents. In regard to education completed, about 34 percent of both groups had completed 10 or fewer years of formal education; 23 percent, 11 years; and 43 percent, 12 years. Finally, about 49 percent of each group were non-high school graduates; 41 percent were high school graduates; and 10 percent held GED certificates. However, there were significant differences between the two groups as to recruiting area, mental group category, and recruit quality index. These differences are discussed below.

1. Recruiting Area. Although experimental and control group members came from all regions of the country, their geographical source distributions were not equivalent. Specifically, the Ohio Valley and Rocky Mountains/Texas areas (4 and 7) were overrepresented in the experimental group, while the Northeast, Southeast, and Midwest areas (1, 3, and 5) were overrepresented in the control group.

2. Mental Group Category. In January 1976, the Armed Services Vocational Aptitude Battery (ASVAB) replaced the Navy Basic Test Battery (BTB) for use in selecting/assigning Navy recruits. As a result, some of the January and February accessions were assigned to mental level categories based on their ASVAB score; and others, based on their BTB score. The upper and lower percentile limits, adjusted for differences in ASVAB and BTB score distributions, used for assigning recruits to the various mental level categories are shown below:

Mental Group	BTB	ASVAB
I	93+	95+
II	65-92	67-94
Upper III	49-64	50-65
Lower III	31-48	35-49
IV	10-30	10-33

For further information, see Development of Revised Mental Group Definitions, Note 6.

As shown in Table 1, more control group subjects fell into the upper (I, II, III-U) categories (37 vs. 30%), while more experimental group subjects fell into the lower (III-L, IV) categories (70 vs. 63%).

Table 1

Demographic Variables--Experimental and Control Groups

Item	Exper. Group N	Exper. Group Percent	Cont. Group N	Cont. Group Percent	Total N	Total Percent
Age At Enlistment--χ^2 (3df) = 1.38; p > .05						
17 Years Old	340	30.8	306	31.5	646	31.1
18 Years Old	290	26.2	262	27.0	552	26.6
19 Years Old	223	20.2	176	18.1	399	19.2
≥20 Years Old	252	22.8	226	23.3	478	23.0
Total	1105	100.0	970	99.9	2075	99.9
Recruiting Area--χ^2 (5df) = 15.76; p < .01						
Area 1 (Northeast)	189	17.3	180	18.8	369	18.0
Area 3 (Southeast)	96	8.8	109	11.4	205	10.0
Area 4 (Ohio Valley)	257	23.6	185	19.3	442	21.6
Area 5 (Midwest)	218	20.0	229	23.9	447	21.8
Area 7 (Rocky Mts-Texas)	165	15.1	114	11.9	279	13.6
Area 8 (West)	165	15.1	143	14.9	308	15.0
Total	1090	99.9	960	100.2	2050	100.0
Racial Composition--χ^2 (1df) = 1; p > .05						
Caucasian	940	85.1	828	85.2	1768	85.1
Minority	165	14.9	144	14.8	309	14.9
Total	1105	100.0	972	100.0	2077	100.0
Number of Dependents--χ^2 (1df) = .02, p > .05						
None	1077	92.4	902	92.7	1979	92.6
One or More	88	7.6	71	7.3	159	7.4
Total	1165	100.0	973	100.0	3138	100.0
Years of Formal Education Completed--χ^2 (2df) = 2.39; p > .05						
10 Years or Less	414	35.5	315	32.4	729	34.1
11 Years	259	22.2	230	23.6	489	22.9
12 Years or More	492	42.2	428	44.0	920	43.0
Total	1165	99.9	973	100.0	2138	100.0
Educational Level Attained--χ^2 (2df) = .82; p > .05						
Non-high School Graduate	529	48.4	473	48.7	1002	48.6
GED Certificated	114	10.4	90	9.3	204	9.9
High School Graduate	449	41.1	408	42.0	857	41.5
Total	1092	99.9	971	100.0	2063	100.0

Notes.

1. Missing observations: Age = 63, Recruiting Area = 88, Race = 64, Ed. Level = 75.

2. Percentages do not always total 100 due to rounding errors.

Table 1 (Continued)

Item	Exper. Group N	Exper. Group Percent	Cont. Group N	Cont. Group Percent	Total N	Total Percent
Mental Group Category--χ^2 (3df) = 35.82; $p < .001$						
Categories I and II	89	8.3	152	16.1	241	11.9
Category III (Upper)	237	22.1	195	20.7	432	21.4
Category III (Lower)	554	51.6	404	42.8	958	47.5
Category IV	194	18.1	193	20.4	387	19.2
Total	1074	100.1	994	100.0	2018	100.0
Recruit Quality Index--χ^2 (3df) = 12.13, $p < .01$						
ALPHA	196	18.0	219	22.6	415	20.1
BRAVO	147	13.5	155	16.0	302	14.6
CHARLIE	366	33.5	279	28.7	645	31.3
DELTA	382	35.0	318	32.7	700	33.9
Total	1091	100.0	971	100.0	2062	99.9

Notes.

1. Missing observations: Mental Group = 120, Quality Index = 76.

2. Percentages do not always total 100 due to rounding errors.

3. Recruit Quality Index. Since mental group category is one of the two determinants in assigning recruits to quality indices, the distribution of this variable reflects the differences found above. In comparison to the experimental group, more control group subjects were classified as As and Bs (eligible for "A" school) (39 vs. 31%), and fewer as Cs and Ds (not eligible for "A" school) (61 vs. 69%).

Situational variables for both groups are presented in Table 2. As shown, both groups included similar percentages of Seamen, Firemen, and Airmen. However, there were significant differences in Recruit Training Command (RTC) attended and initial duty assignments. These differences are discussed below.

1. Recruit Training Command Attended. As shown, about 31 percent of both groups attended Recruit Training Command (RTC), San Diego. Of the remaining 69 percent, a higher percentage of experimental subjects attended RTC Great Lakes, while a higher percentage of control subjects attended RTC Orlando.

2. Initial Duty Assignment. A higher proportion of experimental than control subjects was originally assigned to the cruiser-destroyer force, while a higher percentage of control subjects was assigned to shore stations.

RTC Input Differences

Total Group

Table 3 compares total input quality across the three RTCs. As shown, RTCs San Diego and Orlando had more high school graduates than did RTC Great Lakes--44 and 46 percent vs. 37 percent. Also, their non-high school graduates included more men holding GED certificates than did Great Lakes (15.3 and 10.0% vs. 6.6%). In addition, RTCs San Diego and Orlando had more men in Mental Categories I, II, and III-U than did Great Lakes (38 and 37% vs. 28%) and fewer men in Mental Categories III-L and IV (62 and 63% vs. 72%).

As shown in Table 3, all RTCs had approximately equal proportions of men classified as BRAVO (school eligible, non-high school graduates) and CHARLIE (non-school eligible, high school graduates). However, discrepancies were observed in the distribution of men in the highest and lowest groups--ALPHA (school eligible, high school graduates) and DELTA (non-school eligible, non-high school graduates). Twenty-five percent of those assigned to San Diego and Orlando were Category A, compared to only 14 percent assigned to Great Lakes. Further, 25 and 29 percent of those assigned to San Diego and Orlando, respectively, were Category D, compared to 42 percent at Great Lakes.

Table 2

Situational Variables--Experimental and Control Groups

Item	Exper. Group		Cont. Group		Total	
	N	Percent	N	Percent	N	Percent
Entering Rate--χ^2 (2df) = 2.16; p > .05						
Seaman	680	58.4	593	61.0	1273	59.6
Fireman	321	27.6	241	24.8	562	26.3
Airman	164	14.1	138	14.2	302	14.1
	1165	100.1	972	100.0	2137	100.0
Recruit Training Command Attended--χ^2 (2df) = 10.30; p < .01						
San Diego, CA	335	31.3	293	30.9	628	31.1
Great Lakes, IL	541	50.5	429	45.3	970	48.1
Orlando, FL	195	18.2	225	23.8	420	20.8
Total	1071	100.0	947	100.0	2018	100.0
Initial Duty Assignment--χ^2 (5df) = 33.75; p < .001						
Aircraft Carriers	138	20.2	127	22.6	265	21.3
Destroyers/Cruisers	145	21.3	64	11.4	209	16.8
Amphibious	155	22.7	146	26.0	301	24.2
Support	180	26.4	134	23.8	314	25.2
Air Squadrons	28	4.1	31	5.5	59	4.7
Shore Stations	36	5.3	60	10.7	96	7.7
Total	682	100.0	562	100.0	1244	99.9

Notes.

1. Missing observations: Rate = 1 and RTC Attended = 120. Assignment data for initial duty assignment presented above were obtained in August 1976. At that time, 1458 of the original sample of 2138 still remained on duty. Thus, for this variable, the missing observations equal 214.

2. Percentages do not always total 100 due to rounding errors.

Table 3

Recruit Input Quality at Recruit Training Commands

Item	San Diego N	San Diego Percent	Grt. Lakes N	Grt. Lakes Percent	Orlando N	Orlando Percent	Total N	Total Percent
Mental Group Category--χ^2 (14df) = 51.04; p < .001								
High School Graduates								
I and II	48	7.8	40	4.2	41	10.1	129	6.5
III (Upper)	59	9.6	72	7.5	37	9.1	168	8.5
III (Lower)	97	15.8	121	12.7	74	18.3	292	14.8
IV	68	11.1	120	12.6	35	8.6	223	11.3
Total	272	44.3	353	37.0	187	46.1	812	41.1
Non-high School Graduates (Including Certificated)[a]								
I and II	40	6.5	43	4.5	24	5.9	107	5.4
III (Upper)	87	14.1	112	11.7	50	12.3	249	12.6
III (Lower)	176	28.6	357	37.4	118	29.1	651	33.0
IV	40	6.5	89	9.3	26	6.4	155	7.9
Total	343	55.7	601	62.9	218	53.7	1162	58.9
GRAND TOTAL	615	100.0	954	99.9	405	99.8	1974	100.0
Recruit Quality Index--χ^2 (6df) = 65.34; p < .001								
ALPHA	152	24.2	141	14.5	108	25.7	401	19.9
BRAVO	95	15.1	142	14.6	59	14.0	296	14.7
CHARLIE	221	35.2	282	29.1	131	31.2	634	31.4
DELTA	160	25.5	405	41.8	122	29.0	687	34.0
Total	628	100.0	970	100.0	420	99.9	2018	100.0

Notes.

1. Missing observations: Mental Group Category = 164, Recruit Quality Index = 120.

2. Percentages do not always total 100 due to rounding errors.

[a]Recruits holding GED certificates represented the following percentages: San Diego = 15.3 percent, Great Lakes = 6.6 percent, and Orlando = 10.0 percent.

Experimental vs. Control Group

Table 4 compares input quality of experimental groups across RTCs. As shown, within both the experimental and control groups, significant differences were observed in assignment of men in varying mental categories to the different RTCs; however, these differences appear to be more pronounced in the experimental group. Over a third of the men assigned to RTCs San Diego and Orlando were in Mental Categories I, II, or III-U, compared to less than a fourth of those assigned to Great Lakes (38 and 35% vs. 24%). A similar but less pronounced pattern was observed within the control group: approximately 39 percent of those assigned to RTCs San Diego or Orlando were in the upper mental categories, compared to 34 percent for Great Lakes.

Observations were also made of quality index classification within experimental conditions at each RTC. Within the experimental group, nearly equal proportions of men attending each RTC were classified as quality group B. However, moderate differences were observed in the percentages of men assigned to mix C: Approximately 37 percent of those assigned to RTCs San Diego or Orlando were Cs, compared to 30 percent for Great Lakes. The most dramatic differences were found among men assigned to quality groups A or D. RTCs San Diego and Orlando had nearly twice as many recruits in quality group A as did Great Lakes (23 vs. 12%). Further, about 25 percent of those assigned to San Diego and Orlando were in quality group D, compared to 45 percent for Great Lakes.

Within the control group, the distribution of recruits in quality group B was nearly equivalent at all RTCs. Also, the pattern of assignment to groups A and D was nearly similar to that of the experimental group. However, for group C, the smallest input was found at RTC Orlando; this was in contrast to the experimental group, where the smallest input was at Great Lakes.

Table 4

Recruit Input Quality Within Experimental Conditions
at Recruit Training Commands

Item	Exper. Group N	Exper. Group Percent	Cont. Group N	Cont. Group Percent	Total N	Total Percent
Mental Group Category--Exper.: χ^2 (6df) = 23.20; p < .001 and Cont. : χ^2 (6df) = 15.07; p < .05						
RTC San Diego:						
MG I and II	36	10.9	52	18.2	88	14.3
MG III (Upper)	88	26.7	58	20.3	146	23.7
MG III (Lower)	148	45.0	125	43.7	273	44.4
MG IV	57	17.3	51	17.8	108	17.6
Total	329	99.9	286	100.0	615	100.0
RTC Great Lakes:						
MG I and MG II	32	6.0	51	12.2	83	8.7
MG III (Upper)	95	17.8	89	21.2	184	19.3
MG III (Lower)	300	56.1	178	42.5	478	50.1
MG IV	108	20.2	101	24.1	209	21.9
Total	535	100.1	419	100.0	954	100.0
RTC Orlando:						
MG I and II	19	10.0	46	21.4	65	16.0
MG III (Upper)	47	24.7	40	18.6	87	21.5
MG III (Lower)	97	51.1	95	44.2	192	47.4
MG IV	27	14.2	34	15.8	61	15.1
Total	190	100.0	215	100.0	405	100.0
GRAND TOTAL	1054	53.4	920	46.6	1974	100.0
Recruit Quality Index--Exper.: χ^2 (6df) = 58.33; p < .001 and Cont. : χ^2 (6df) = 18.50, p < .005						
RTC San Diego:						
ALPHA	81	24.2	71	24.2	152	24.2
BRAVO	49	14.6	46	15.7	95	15.1
CHARLIE	123	36.7	98	33.4	221	35.2
DELTA	82	24.5	78	26.6	160	25.5
Total	335	100.0	293	99.9	628	100.0
RTC Great Lakes:						
ALPHA	65	12.0	76	17.7	141	14.5
BRAVO	68	12.6	74	17.2	142	14.6
CHARLIE	162	29.9	120	28.0	282	29.1
DELTA	246	45.5	159	37.1	405	41.8
Total	541	100.0	429	100.0	970	100.0
RTC Orlando:						
ALPHA	44	22.6	64	28.4	108	25.7
BRAVO	27	13.8	32	14.2	59	14.0
CHARLIE	75	38.5	56	24.9	131	31.2
DELTA	49	25.1	73	32.4	122	29.0
Total	195	100.0	225	99.9	420	99.9
GRAND TOTAL	1071	53.1	947	46.9	2018	100.0

Notes.

1. Missing observations: Mental Group Category = 164, Recruit Quality Index = 120.

2. Percentages do not always equal 100 due to rounding errors.

Attrition--Experimental vs. Control Group

Overall Attrition

Table 5, which provides overall data for the experimental and control groups, shows that attrition was significantly higher in the experimental group. At the end of 23 months, 73 percent of the experimental group had attrited, compared to 48 percent of the control group. Further, the availability of a voluntary out option in the experimental group significantly increased the proportion of honorable separations (81 vs. 36% for the control group), and decreased the incidence of desertions (3 vs. 17% for the control group). Overall attrition for the two groups over time is shown in Figure 1.

Table 5

Overall Attrition--Experimental and Control Groups

	Exper. Group		Cont. Group		Total	
Item	N	Percent	N	Percent	N	Percent
Attrition Rate--χ^2 (1df) = 145.03; $p < .001$						
Active	311	26.7	509	52.3	820	38.4
Attrited	854	73.3	464	47.7	1318	61.6
Total	1165	100.0	973	100.0	2138	100.0
Type of Separation Within Attrited Groups--χ^2 (1df) = 257.24; $p < .001$						
Honorable	689	80.7	169	36.4	858	65.1
Less than Honorable	165	19.3	295	63.6	460	34.9
Total	854	100.0	464	100.0	1318	100.0
Desertion Rate Within Attrited Groups--χ^2 (1df) = 80.77; $p < .001$						
Released	831	97.3	387	83.4	1218	92.4
Deserted	23	2.7	77	16.6	100	7.6
Total	854	100.0	464	100.0	1318	100.0
Losses Within Experimental Phases--χ^2 (1df) = .26; $p > .05$						
Phase I	308	36.1	160	34.5	468	35.5
Phase II	546	63.9	304	65.5	850	64.5
Total	854	100.0	464	100.0	1318	100.0

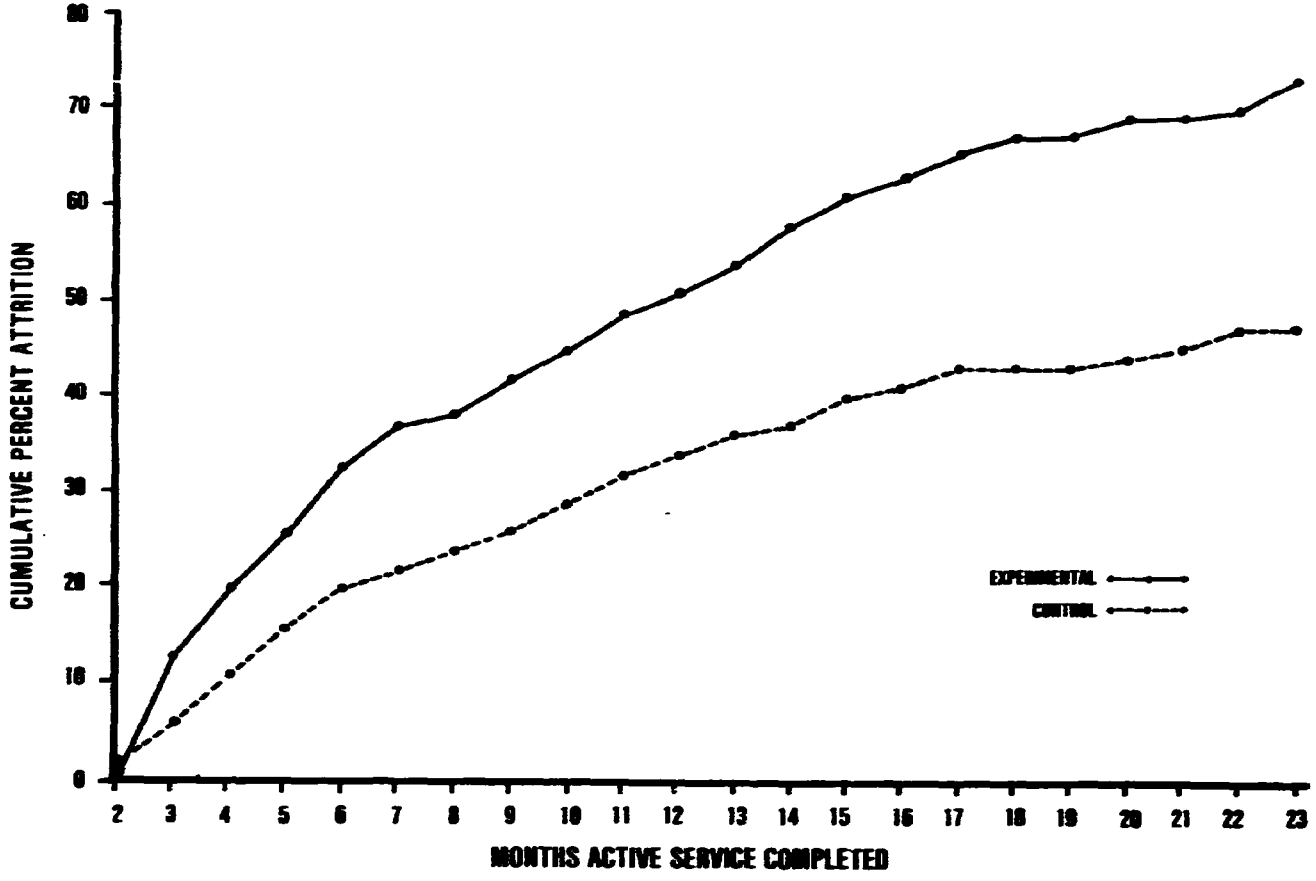


Figure 1. Overall attrition over time—
Experimental and control groups.

Attrition by Demographic or Situational Variables

Demographic Variables.

1. Age at Enlistment. As shown in Table 6, the probability of survival increased with age at enlistment. At the 23-month point, experimental group members who enlisted at 17 years of age experienced the highest attrition rate (80%); and those who enlisted at 20 years or older, the lowest (62.7%). For control subjects, those who enlisted at 17 years of age had the highest attrition rate (58.5%); and those who enlisted at 19 or older, the lowest (40.3%).

In regard to type of separation, experimental subjects who were 19 years at enlistment were most likely to be honorably separated; and those who were 17, least likely (87.7 vs. 79.0%). No significant differences were observed in this measure for the control group.

Finally, no significant differences were observed for either group in type of loss incurred (Table 6) or distribution of total losses over time (Figure 2).

2. Recruiting Area. As shown in Table 7, no significant differences associated with the section of the country from which subjects were recruited were found for either group.

3. Racial Composition. As shown in Table 8, after 23 months of service, Caucasians in both groups experienced higher attrition rates than minorities (74.9 vs. 54.5% for the experimental group, and 50.0 vs. 34.7% for the control group). Further, when length of service (LOS) time plots shown in Figure 3 were examined, it was found that these loss rates became more divergent over time. No significant differences associated with race were found for either group in separation or loss data.

4. Number of Dependents. As shown in Table 9, control subjects with no dependents had a significantly lower attrition rate than those with one or more dependents (46.5 vs. 63.4%). Although the trend in the experimental group was similar, it failed to reach the 95 percent level of confidence (72.5 vs. 81.8%, $p = .0768$). No significant differences were found for either group in separation, loss, or LOS data.

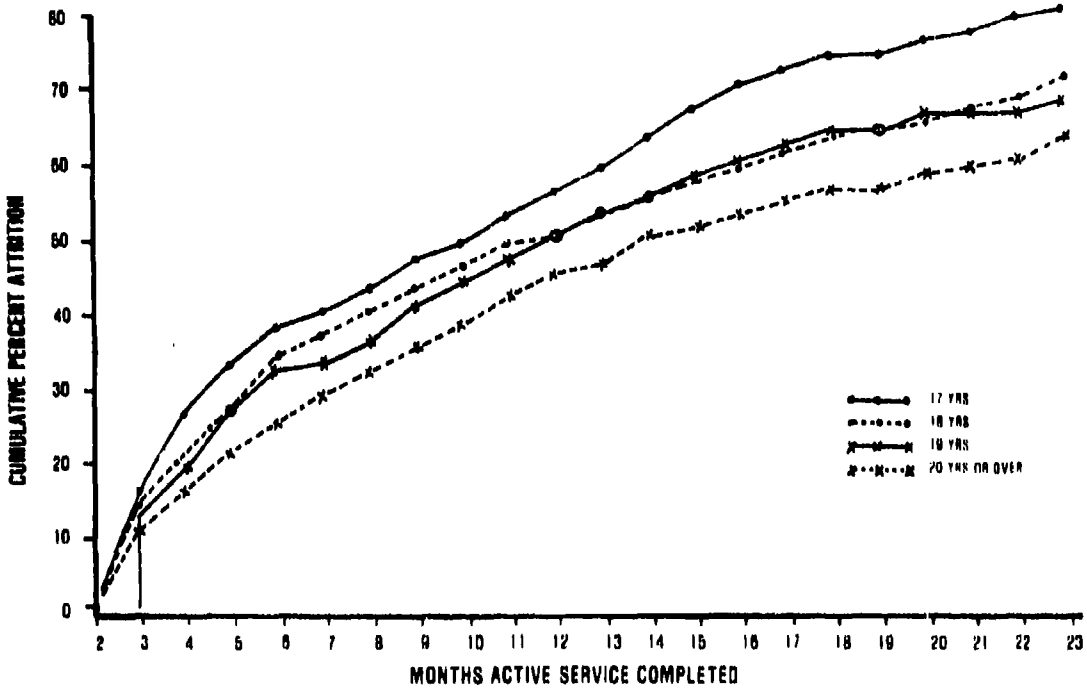
5. Years of Formal Education Completed. Within both study groups, a direct negative relationship was found between years of education completed and attrition: The fewer years of education a man had, the more likely he was to attrite. As shown in Table 10, in both groups, those with 10 or fewer years of education had the highest overall attrition rate; and those with 12 years or more, the lowest (81.4 vs. 64.6% for the experimental group, and 57.8 vs. 39.0% for the control group).

Table 6

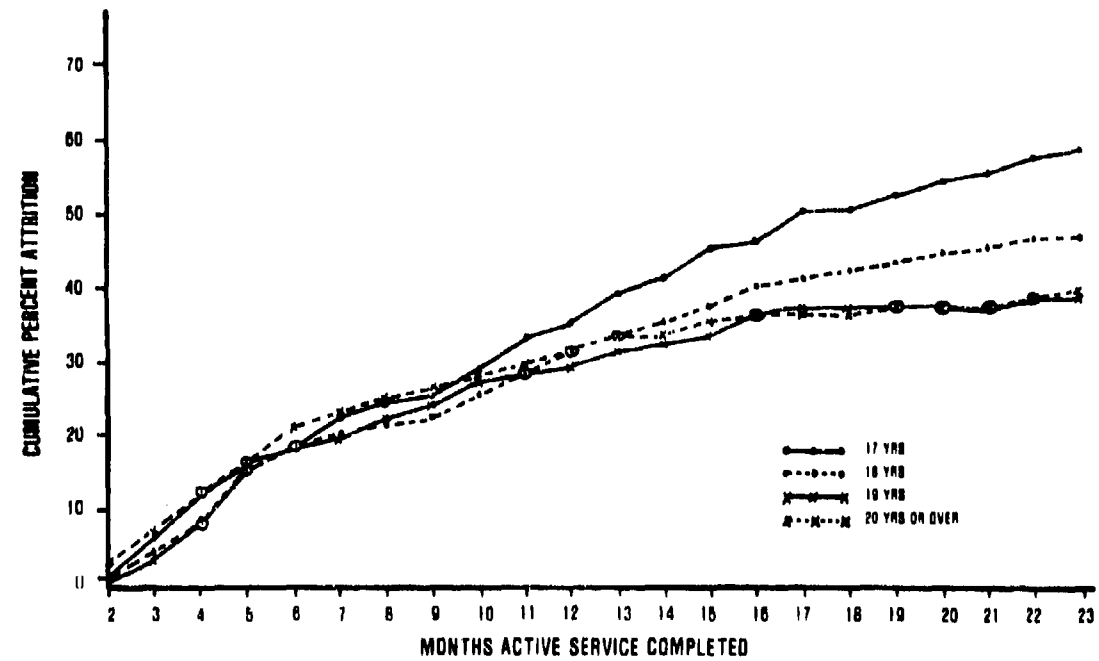
Attrition by Age at Enlistment--Experimental and Control Groups

Item	Age at Enlistment: 17 Years N	17 Years Percent	18 Years N	18 Years Percent	19 Years N	19 Years Percent	≥ 20 Years N	≥ 20 Years Percent	Total N	Total Percent
Total Losses										
Experimental Group--χ^2 (3df) = 22.508; p < .001										
Active	68	20.0	80	27.6	69	30.9	94	37.3	311	28.1
Attrited	272	80.0	210	72.4	154	69.1	158	62.7	794	71.9
Total	340	100.0	290	100.0	223	100.0	252	100.0	1105	100.0
Control Group--χ^2 (3df) = 23.173; p < .001										
Active	127	41.5	139	53.1	105	59.7	135	59.7	506	52.2
Attrited	179	58.5	123	46.9	71	40.3	91	40.3	464	47.8
Total	306	100.0	262	100.0	176	100.0	226	100.0	970	100.0
Total Group--χ^2 (3df) = 40.449; p < .001										
Active	195	30.2	219	39.7	174	43.6	229	47.9	817	39.4
Attrited	451	69.8	333	60.3	225	56.4	249	52.1	1258	60.6
Total	646	100.0	552	100.0	399	100.0	478	100.0	2075	100.0
Type of Separation Within Attrited Groups										
Experimental Group--χ^2 (3df) = 8.631; p < .05										
Honorable	215	79.0	183	87.1	135	87.7	136	86.1	669	84.3
< Honorable	57	21.0	27	12.9	19	12.3	22	13.9	125	15.7
Total	272	100.0	210	100.0	154	100.0	158	100.0	794	100.0
Control Group--χ^2 (3df) = 7.026; p > .05										
Honorable	54	30.2	45	36.6	28	39.4	42	46.2	169	36.4
< Honorable	125	69.8	78	63.4	43	60.6	49	53.8	295	63.6
Total	179	100.0	123	100.0	71	100.0	91	100.0	464	100.0
Total Group--χ^2 (3df) = 16.460; p < .001										
Honorable	269	59.6	228	68.5	163	72.4	179	71.5	838	66.6
< Honorable	182	40.4	105	31.5	62	27.6	71	28.5	420	33.4
Total	451	100.0	333	100.0	225	100.0	249	100.0	1258	100.0
Type of Loss Within Attrited Groups										
Experimental Group--χ^2 (3df) = 2.270; p > .05										
Released	266	97.8	204	97.1	153	99.4	154	97.5	777	97.9
Deserted	6	2.2	6	2.9	1	0.6	4	2.5	17	2.1
Total	272	100.0	210	100.0	154	100.0	158	100.0	794	100.0
Control Group--χ^2 (3df) = 1; p > .05										
Released	147	82.1	105	85.4	59	83.1	76	83.5	387	83.4
Deserted	32	17.9	18	14.6	12	16.9	15	16.5	77	16.6
Total	179	100.0	123	100.0	71	100.0	91	100.0	464	100.0
Total Group--χ^2 (3df) = 1.570; p > .05										
Released	413	91.6	309	92.8	212	94.2	230	92.4	1164	92.5
Deserted	38	8.4	24	7.2	13	5.8	19	7.6	94	7.5
Total	451	100.0	333	100.0	225	100.0	249	100.0	1258	100.0

Note: Number of missing observations: total losses = 61; type of separation = 59; type of loss = 59.



a. Experimental Group



b. Control Group

Figure 2. Overall attrition over time--
Experimental and control groups.

Table 7

Attrition by Recruiting Area--Experimental and Control Groups

Item	1 (NE) N	1 (NE) Percent	3 (SE) N	3 (SE) Percent	4 (Ohio V.) N	4 (Ohio V.) Percent	5 (MW) N	5 (MW) Percent	7 (RM-Tex) N	7 (RM-Tex) Percent	8 (W) N	8 (W) Percent	Total N	Total Percent
Total Losses														
Experimental Group--χ^2 (5df) = 5.882; p > .05														
Active	58	30.7	27	28.1	69	26.8	51	23.4	39	23.6	53	32.1	297	27.2
Attrited	131	69.3	69	71.9	188	73.2	167	76.6	126	76.4	112	67.9	793	72.8
Total	189	100.0	96	100.0	257	100.0	218	100.0	165	100.0	165	100.0	1090	100.0
Control Group--χ^2 (5df) = 5.016; p > .05														
Active	90	50.0	49	45.0	93	50.3	122	53.3	61	53.5	83	58.0	498	51.9
Attrited	90	50.0	60	55.0	92	49.7	107	46.7	53	46.5	60	42.0	462	48.1
Total	180	100.0	109	100.0	185	100.0	229	100.0	114	100.0	143	100.0	960	100.0
Total Group--χ^2 (5df) = 6.134; p > .05														
Active	148	40.1	76	37.1	162	36.7	173	38.7	100	35.8	136	44.2	795	38.8
Attrited	221	59.9	129	62.9	280	63.3	274	61.3	179	64.2	172	55.8	1255	61.2
Total	369	100.0	205	100.0	442	100.0	447	100.0	279	100.0	308	100.0	2050	100.0
Type of Separation Within Attrited Groups														
Experimental Group--χ^2 (5df) = 2.093; p > .05														
Honorable	106	80.9	57	82.6	160	85.1	144	86.2	105	83.3	96	85.7	668	84.2
< Honorable	25	19.1	12	17.4	28	14.9	23	13.8	21	16.7	16	14.3	125	15.8
Total	131	100.0	69	100.0	188	100.0	167	100.0	126	100.0	112	100.0	793	100.0
Control Group--χ^2 (5df) = 4.752; p > .05														
Honorable	26	28.9	25	41.7	31	33.7	42	39.3	23	43.4	21	35.0	168	36.4
< Honorable	64	71.1	35	58.3	61	66.3	65	60.7	30	56.6	39	65.0	294	63.6
Total	90	100.0	60	100.0	92	100.0	107	100.0	53	100.0	60	100.0	462	100.0
Total Group--χ^2 (5df) = 7.853; p > .05														
Honorable	132	59.7	82	63.6	191	68.2	186	67.9	128	71.5	117	68.0	836	66.6
< Honorable	89	40.3	47	36.4	89	31.8	88	32.1	51	28.5	55	32.0	419	33.4
Total	221	100.0	129	100.0	280	100.0	274	100.0	179	100.0	172	100.0	1255	100.0
Type of Loss Within Attrited Groups														
Experimental Group--χ^2 (5df) = 10.296; p > .05														
Released	125	95.4	68	98.6	186	98.9	167	100.0	122	96.8	108	96.4	776	97.9
Deserted	6	4.6	1	1.4	2	1.1	0	0.0	4	3.2	4	3.6	17	2.1
Total	131	100.0	69	100.0	188	100.0	167	100.0	126	100.0	112	100.0	793	100.0
Control Group--χ^2 (5df) = 10.573; p > .05														
Released	81	90.0	45	75.0	81	88.0	83	77.6	43	81.1	52	86.7	385	83.3
Deserted	9	10.0	15	25.0	11	12.0	24	22.4	10	18.9	8	13.3	77	16.7
Total	90	100.0	60	100.0	92	100.0	107	100.0	53	100.0	60	100.0	462	100.0
Total Group--χ^2 (5df) = 8.658; p > .05														
Released	206	93.2	113	87.6	267	95.4	250	91.2	165	92.2	160	93.0	1161	92.5
Deserted	15	6.8	16	12.4	13	4.6	24	8.8	14	7.8	12	7.0	94	7.5
Total	221	100.0	129	100.0	280	100.0	274	100.0	179	100.0	172	100.0	1255	100.0

Note: Number of missing observations: total losses = 88; type of separation = 62; type of loss = 62.

Table 8

Attrition by Racial Composition--Experimental and Control Groups

Item	Racial Composition: Caucasian N	Caucasian Percent	Minority N	Minority Percent	Total N	Total Percent
Total Losses						
Experimental Group--x^2 (1df) = 27.740; p < .001						
Active	236	25.1	75	45.5	311	28.1
Attrited	704	74.9	90	54.5	794	71.9
Total	940	100.0	165	100.0	1105	100.0
Control Group--x^2 (1df) = 10.872; p < .001						
Active	414	50.0	94	65.3	508	52.3
Attrited	414	50.0	50	34.7	464	47.7
Total	828	100.0	144	100.0	972	100.0
Total Group--x^2 (1df) = 34.651; p < .001						
Active	650	36.8	169	54.7	819	39.4
Attrited	1118	63.2	140	45.3	1258	60.6
Total	1768	100.0	309	100.0	2077	100.0
Type of Separation Within Attrited Groups						
Experimental Group--x^2 (1df) = 14.366; p < .001						
Honorable	606	86.1	63	70.0	669	84.3
< Honorable	98	13.9	27	30.0	125	15.7
Total	704	100.0	90	100.0	794	100.0
Control Group--x^2 (1df) = < 1; p > .05						
Honorable	150	36.2	19	38.0	169	36.4
< Honorable	264	63.8	31	62.0	295	63.6
Total	414	100.0	50	100.0	464	100.0
Total Group--x^2 (1df) = 4.183; p > .05						
Honorable	756	67.6	82	58.6	838	66.6
< Honorable	362	32.4	58	41.4	420	33.4
Total	1118	100.0	140	100.0	1258	100.0
Type of Loss Within Attrited Groups						
Experimental Group--x^2 (1df) = < 1; p > .05						
Released	690	98.0	87	96.7	777	97.9
Deserted	14	2.0	3	3.3	17	2.1
Total	704	100.0	90	100.0	794	100.0
Control Group--x^2 (1df) = 1.267; p > .05						
Released	342	82.6	45	90.0	387	83.4
Deserted	72	17.4	5	10.0	77	16.6
Total	414	100.0	50	100.0	464	100.0
Total Group--x^2 (1df) = < 1; p > .05						
Released	1032	92.3	132	94.3	1164	92.5
Deserted	86	7.7	8	5.7	94	7.5
Total	1118	100.0	140	100.0	1258	100.0

Note. Number of missing observations: total losses = 61; type of separation = 59; type of loss = 59.

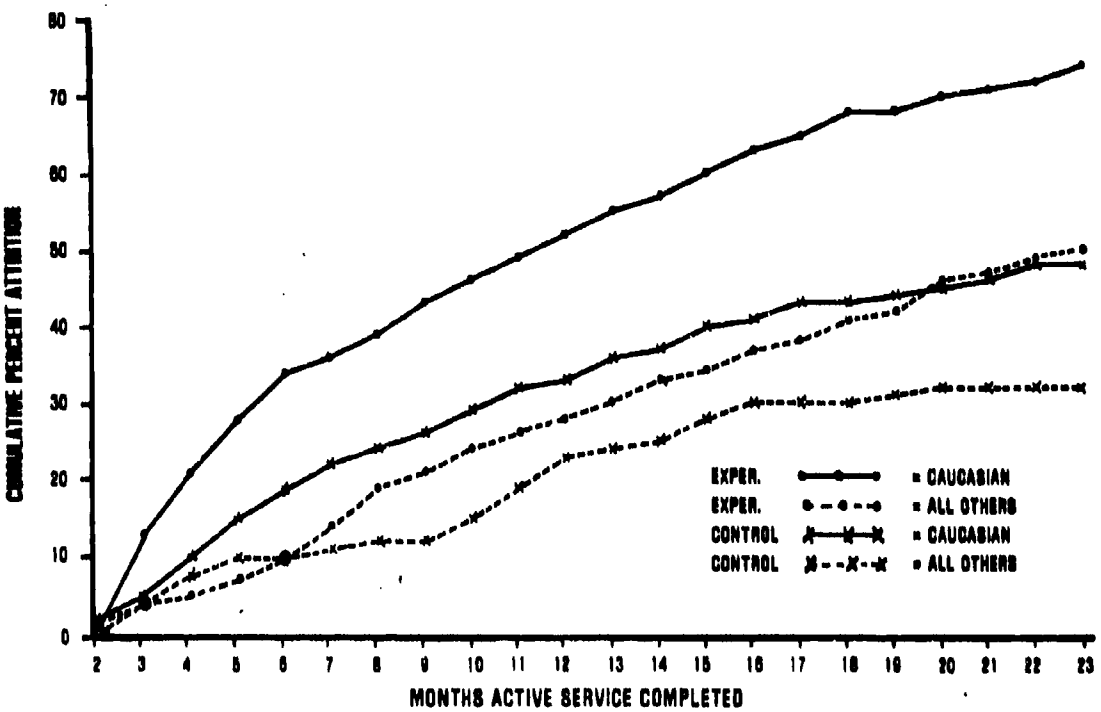


Figure 3. Attrition over time by racial composition--Experimental and control groups.

Table 9

Attrition by Number of Dependents--Experimental and Control Groups

Item	Number of Dependents: None N	None Percent	One or More N	One or More Percent	Total N	Total Percent
Total Losses						
Experimental Group--χ^2 (1df) = 3.131; p > .05						
Active	296	27.5	16	18.2	312	26.8
Attrited	781	72.5	72	81.8	853	73.2
Total	1077	100.0	88	100.0	1165	100.0
Control Group--χ^2 (1df) = 6.897; p < .01						
Active	483	53.5	26	36.6	509	52.3
Attrited	419	46.5	45	63.4	464	47.7
Total	902	100.0	71	100.0	973	100.0
Total Group--χ^2 (1df) = 9.891; p < .01						
Active	779	39.4	42	26.4	821	38.4
Attrited	1200	60.6	117	73.6	1317	61.6
Total	1979	100.0	159	100.0	2138	100.0
Type of Separation Within Attrited Groups						
Experimental Group--χ^2 (1df) = < 1; p > .05						
Honorable	629	80.5	59	81.9	688	80.7
< Honorable	152	19.5	13	18.1	165	19.3
Total	781	100.0	72	100.0	853	100.0
Control Group--χ^2 (1df) = 2.775; p > .05						
Honorable	147	35.1	22	48.9	169	36.4
< Honorable	272	64.9	23	51.1	295	63.6
Total	419	100.0	45	100.0	464	100.0
Total Group--χ^2 (1df) = < 1; p > .05						
Honorable	776	64.7	81	69.2	857	65.1
< Honorable	424	35.3	36	30.8	460	34.9
Total	1200	100.0	117	100.0	1317	100.0
Type of Loss Within Attrited Groups						
Experimental Group--χ^2 (1df) = < 1; p > .05						
Released	760	97.3	70	97.2	830	97.3
Deserted	21	2.7	2	2.8	23	2.7
Total	781	100.0	72	100.0	853	100.0
Control Group--χ^2 (1df) = < 1; p > .05						
Released	349	83.3	38	84.4	387	83.4
Deserted	70	16.7	7	15.6	77	16.6
Total	419	100.0	45	100.0	464	100.0
Total Group--χ^2 (1df) = < 1; p > .05						
Released	1109	92.4	108	92.3	1217	92.4
Deserted	91	7.6	9	7.7	100	7.6
Total	1200	100.0	117	100.0	1317	100.0

Note. No missing observations.

Table 10

Attrition by Years of Formal Education Completed—
Experimental and Control Groups

Item	Years of Formal Education Completed: ≤ 10 Years N	≤ 10 Years Percent	11 Years N	11 Years Percent	≥ 12 Years N	≥ 12 Years Percent	Total N	Total Percent
Total Losses								
Experimental Group--χ^2 (2df) = 34.003; p < .001								
Active	77	18.6	61	23.6	174	35.4	312	26.8
Attrited	337	81.4	198	76.4	318	64.6	853	73.2
Total	414	100.0	259	100.0	492	100.0	1165	100.0
Control Group--χ^2 (2df) = 26.242; p < .001								
Active	133	42.2	115	50.0	261	61.0	509	52.3
Attrited	182	57.8	115	50.0	167	39.0	464	47.7
Total	315	100.0	230	100.0	428	100.0	973	100.0
Total Group--χ^2 (2df) = 60.249; p < .001								
Active	210	28.8	176	36.0	435	47.3	821	38.4
Attrited	519	71.2	313	64.0	485	52.7	1317	61.6
Total	729	100.0	489	100.0	920	100.0	2138	100.0
Type of Separation Within Attrited Groups								
Experimental Group--χ^2 (2df) = 20.116; p < .001								
Honorable	249	73.9	160	80.8	279	87.7	688	80.7
< Honorable	88	26.1	38	19.2	39	12.3	165	19.3
Total	337	100.0	198	100.0	318	100.0	853	100.0
Control Group--χ^2 (2df) = 8.127; p < .05								
Honorable	58	31.9	36	31.3	75	44.9	169	36.4
< Honorable	124	68.1	79	68.7	92	55.1	295	63.6
Total	182	100.0	115	100.0	167	100.0	464	100.0
Total Group--χ^2 (2df) = 22.208; p < .001								
Honorable	307	59.2	196	62.6	354	73.0	857	65.1
< Honorable	212	40.8	117	37.4	131	27.0	460	34.9
Total	519	100.0	313	100.0	485	100.0	1317	100.0
Type of Loss Within Attrited Groups								
Experimental Group--χ^2 (2df) = 6.895; p < .05								
Released	322	95.5	196	99.0	312	98.1	830	97.3
Deserted	15	4.5	2	1.0	6	1.9	23	2.7
Total	337	100.0	198	100.0	318	100.0	853	100.0
Control Group--χ^2 (2df) = 5.794; p > .05								
Released	149	81.9	90	78.3	148	88.6	387	83.4
Deserted	33	18.1	25	21.7	19	11.4	77	16.6
Total	182	100.0	115	100.0	167	100.0	464	100.0
Total Group--χ^2 (2df) = 6.613; p < .05								
Released	471	90.8	286	91.4	460	94.8	1217	92.4
Deserted	48	9.2	27	8.6	25	5.2	100	7.6
Total	519	100.0	313	100.0	485	100.0	1317	100.0

Note. No missing observations.

Type of separation was also related to years of education completed within both groups: The more years of education a man had completed, the more likely he was to be honorably separated. As shown in Table 10, those with 12 or more years of education were most likely to be honorably discharged; and those with 10 or fewer years, least likely (87.7 vs. 73.9% for the experimental group, and 44.9 vs. 31.9% for the control group).

Loss group data were related to years of education completed in the experimental group only. As shown, desertion rates ranged from 1.0 and 1.9 percent for men who had completed 11 or 12 years of education to 4.5 percent for those who had completed 10 or fewer years. Finally, LOS effects were observed in the control group only: As shown in Figure 4, men completing 10 or fewer years of education had consistently higher attrition rates than all others.

6. Educational Level Obtained. As shown in Table 11, in both groups, those who held a GED certificate had the highest attrition rate; and those who were high school graduates, the lowest (79.8 vs. 63.5% for the experimental group, and 64.4 vs. 36.8% for the control group).

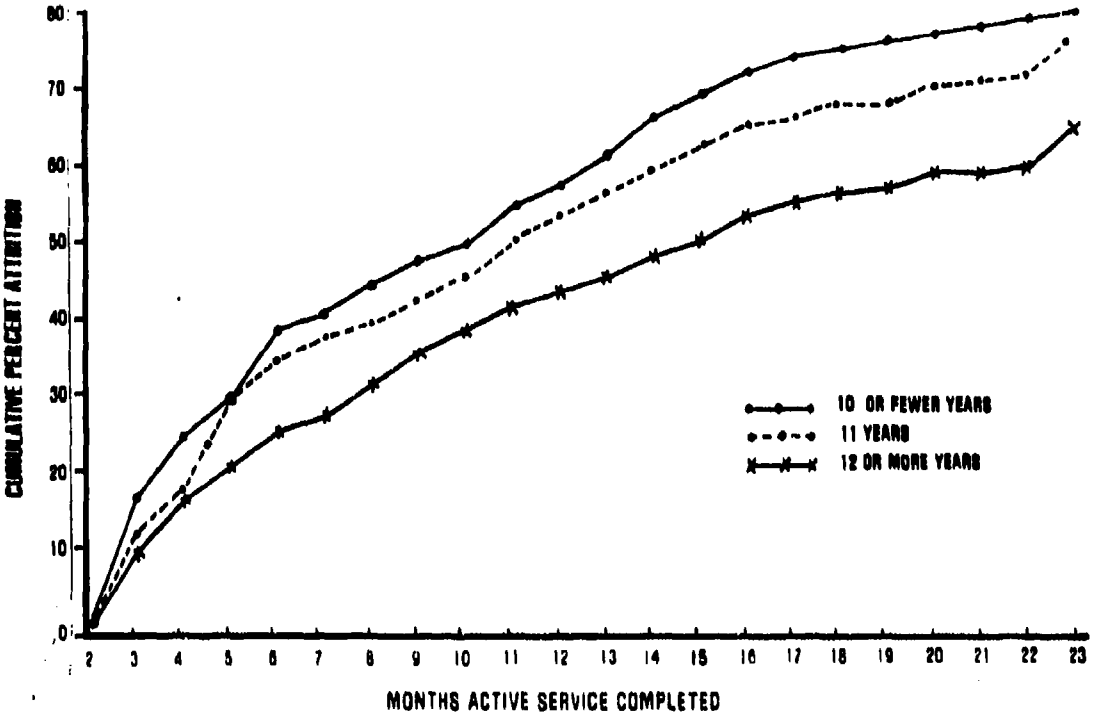
Type of separation was also related to educational level attained in both groups. High school graduates were most likely to be honorably separated; and those holding a GED certificate, least likely (90.5 vs. 74.7% for the experimental group, and 48.0 vs. 25.9% for the control group). Loss group data were related to educational level in the control group only: Holders of GED certificates and non-high school graduates had the highest desertion rates; and high school graduates, the lowest (20.7 and 20.3 vs. 8.7%).

As shown in Figure 5, no significant differences were observed in LOS plots for either group.

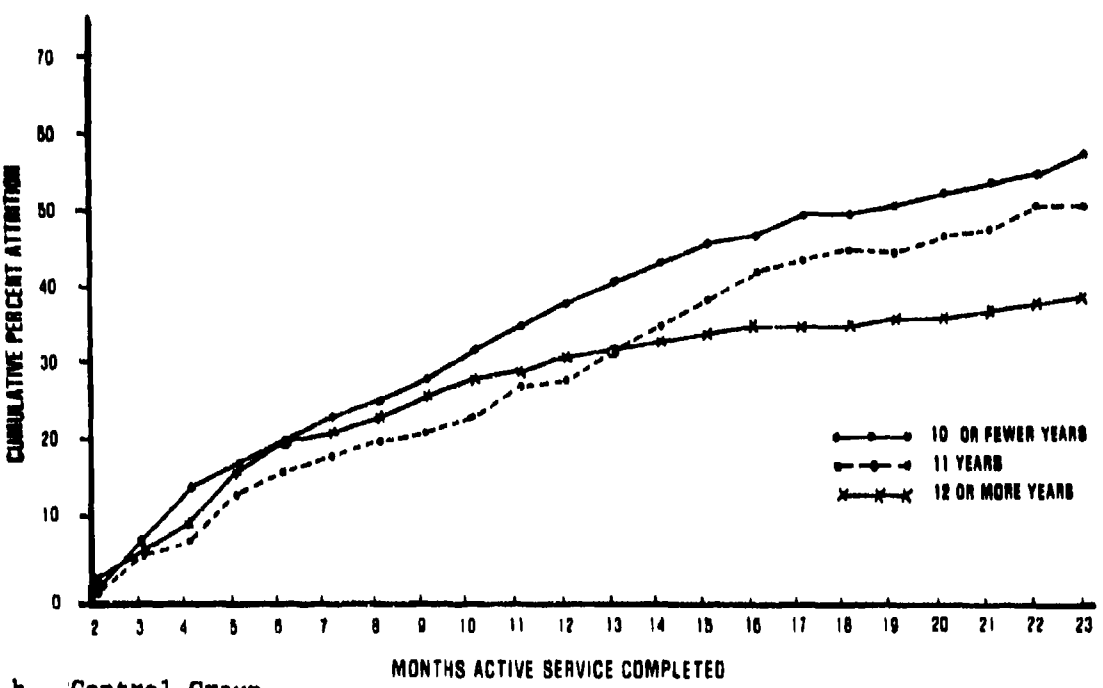
7. Mental Group Category. As shown in Table 12, for both groups, the highest attrition occurred among men in Mental Group Categories I and II; and the lowest, among those in Mental Group Category IV (79.8 vs. 64.9% for the experimental group, and 55.3 vs. 35.8% for the control group).

No significant differences associated with mental group category were found for either group in separation or loss data (Table 12) or in LOS plots (Figure 6).

8. Recruit Quality Index. As shown in Table 13, for both groups, men classified as BRAVO (school qualified, non-high school graduates) had the highest attrition rates; and those classified as CHARLIE (nonschool qualified, high school graduates), the lowest (81.0 vs. 66.7% for the experimental group, and 62.6 vs. 34.1% for the control group). This finding further supports those for educational level attained and mental group category as discussed above.



a. Experimental Group



b. Control Group

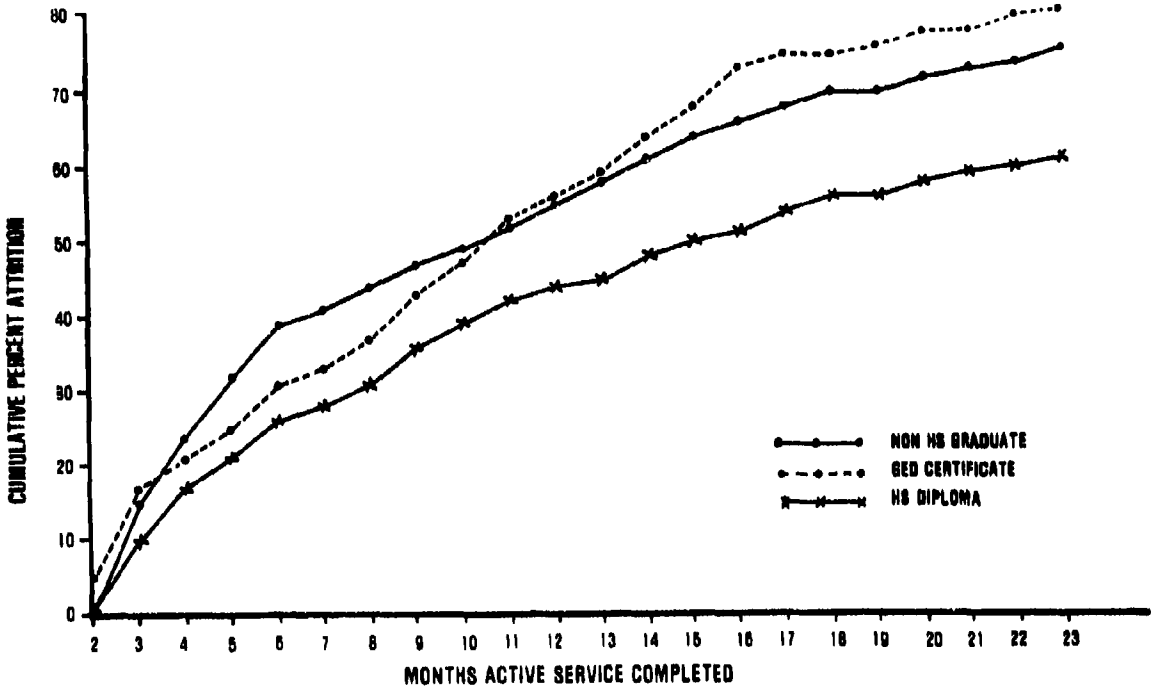
Figure 4. Attrition over time by years of formal education completed--Experimental and control groups.

Table 11

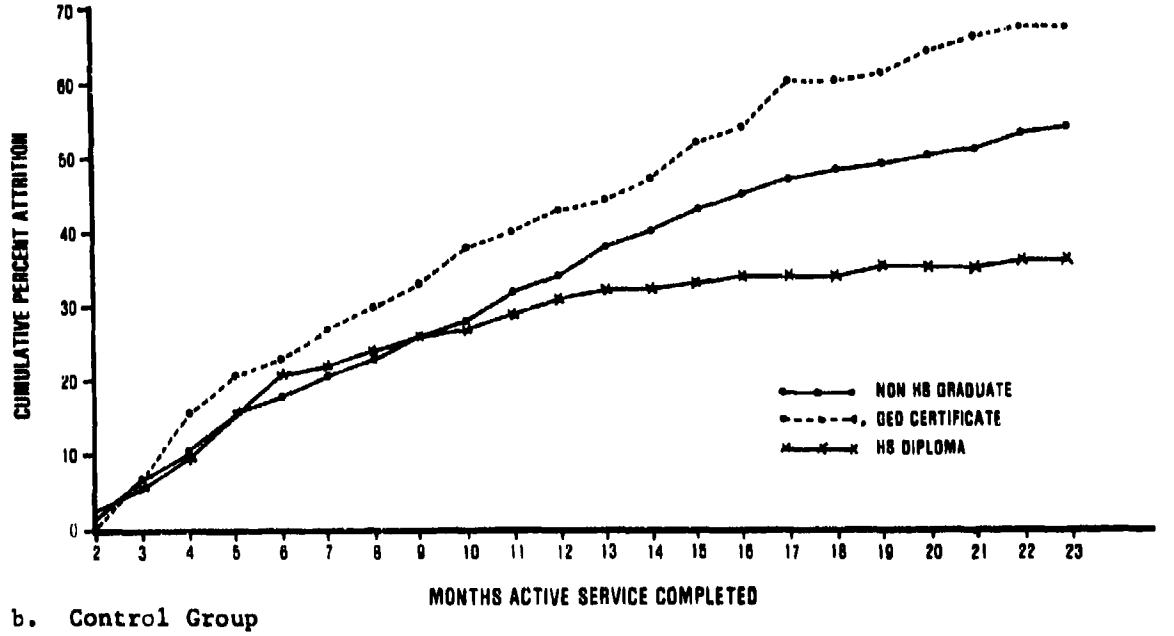
Attrition by Educational Level Attained--Experimental and Control Groups

Item	Educational Level Attained: NHS Grad. N	NHS Grad. Percent	GED Cert. N	GED Cert. Percent	HS Grad. N	HS Grad. Percent	Total N	Total Percent
Total Losses								
Experimental Group--χ^2 (2df) = 26.407; p < .001								
Active	121	22.9	23	20.2	164	36.5	308	28.2
Attrited	408	77.1	91	79.8	285	63.5	784	71.8
Total	529	100.0	114	100.0	449	100.0	1092	100.0
Control Group--χ^2 (2df) = 37.484; p < .001								
Active	217	45.9	32	35.6	258	63.2	507	52.2
Attrited	256	54.1	58	64.4	150	36.8	464	47.8
Total	473	100.0	90	100.0	408	100.0	971	100.0
Total Group--χ^2 (2df) = 61.398; p < .001								
Active	338	33.7	55	27.0	422	49.2	815	39.5
Attrited	664	66.3	149	73.0	435	50.8	1248	60.5
Total	1002	100.0	204	100.0	857	100.0	2063	100.0
Type of Separation Within Attrited Groups								
Experimental Group--χ^2 (2df) = 15.923; p < .001								
Honorable	336	82.4	68	74.7	258	90.5	662	84.4
< Honorable	72	17.6	23	25.3	27	9.5	122	15.6
Total	408	100.0	91	100.0	285	100.0	784	100.0
Control Group--χ^2 (2df) = 13.608; p < .01								
Honorable	82	32.0	15	25.9	72	48.0	169	36.4
< Honorable	174	68.0	43	74.1	78	52.0	295	63.6
Total	256	100.0	58	100.0	150	100.0	464	100.0
Total Group--χ^2 (28.694) = 28.694; p < .001								
Honorable	418	63.0	83	55.7	330	75.9	831	66.6
< Honorable	246	37.0	66	44.3	105	24.1	417	33.4
Total	664	100.0	149	100.0	435	100.0	1248	100.0
Type of Losses Within Attrited Groups								
Experimental Group--χ^2 (2df) = 1.322; p > .05								
Released	397	97.3	89	97.8	281	98.6	767	97.8
Deserted	11	2.7	2	2.2	4	1.4	17	2.2
Total	408	100.0	91	100.0	285	100.0	784	100.0
Control Group--χ^2 (2df) = 10.071; p < .01								
Released	204	79.7	46	79.3	137	91.3	387	83.4
Deserted	52	20.3	12	20.7	13	8.7	77	16.6
Total	256	100.0	58	100.0	150	100.0	464	100.0
Total Group--χ^2 (2df) = 12.593; p < .01								
Released	601	90.5	135	90.6	418	96.1	1154	92.5
Deserted	63	9.5	14	9.4	17	3.9	94	7.5
Total	664	100.0	149	100.0	435	100.0	1248	100.0

Note. Number of missing observations: total losses = 75; type of separation = 69; type of loss = 69.



a. Experimental Group



b. Control Group

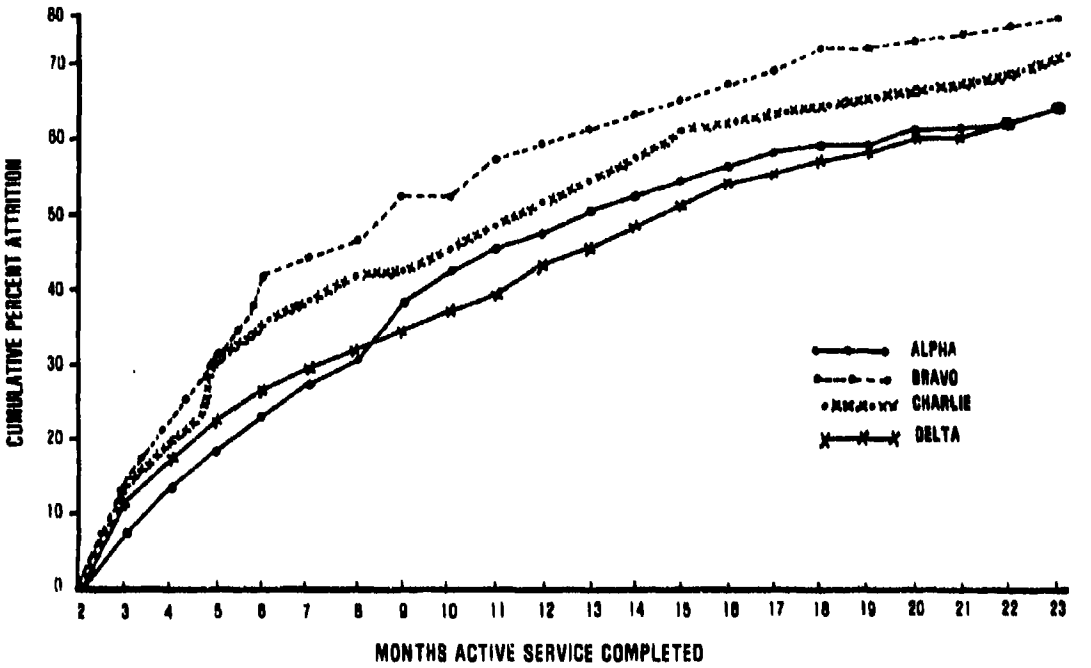
Figure 5. Attrition over time by educational level attained--Experimental and control groups.

Table 12

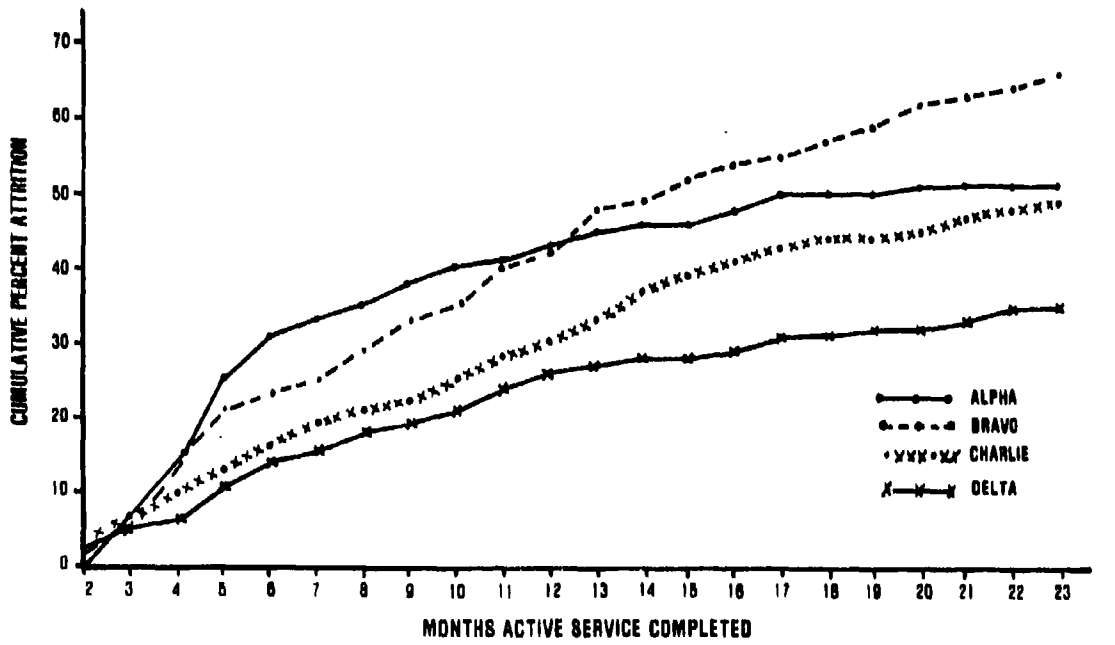
Attrition by Mental Group Category--Experimental and Control Groups

Item	Mental Group Category: I and II N	I and II Percent	III (Upper) N	III (Upper) Percent	III (Lower) N	III (Lower) Percent	IV N	IV Percent	Total N	Total Percent
Total Losses										
Experimental Group--χ^2 (3df) = 8.096; p < .05										
Active	18	20.2	68	28.7	147	26.5	68	35.1	301	28.0
Attrited	71	79.8	169	71.3	407	73.5	126	64.9	773	72.0
Total	89	100.0	237	100.0	554	100.0	194	100.0	1074	100.0
Control Group--χ^2 (3df) = 19.044; p < .001										
Active	68	44.7	88	45.1	219	54.2	124	64.2	499	52.9
Attrited	84	55.3	107	54.9	185	45.8	69	35.8	445	47.1
Total	152	100.0	195	100.0	404	100.0	193	100.0	944	100.0
Total Group--χ^2 (3df) = 20.734; p < .001										
Active	86	35.7	156	36.1	366	38.2	192	49.6	800	39.6
Attrited	155	64.3	276	63.9	592	61.8	195	50.4	1218	60.4
Total	241	100.0	432	100.0	958	100.0	387	100.0	2018	100.0
Type of Separation Within Attrited Groups										
Experimental Group--χ^2 (3df) = 6.693; p > .05										
Honorable	55	77.5	144	85.2	338	83.0	114	90.5	651	84.2
< Honorable	16	22.5	25	14.8	69	17.0	12	9.5	122	15.8
Total	71	100.0	169	100.0	407	100.0	126	100.0	773	100.0
Control Group--χ^2 (3df) = 6.859; p > .05										
Honorable	35	41.7	32	29.9	61	33.0	32	46.4	160	36.0
< Honorable	49	58.3	75	70.1	124	67.0	37	53.6	285	64.0
Total	84	100.0	107	100.0	185	100.0	69	100.0	445	100.0
Total Group--χ^2 (3df) = 12.236; p < .01										
Honorable	90	58.1	176	63.8	399	67.4	146	74.9	811	66.6
< Honorable	65	41.9	100	36.2	193	32.6	49	25.1	407	33.4
Total	155	100.0	276	100.0	592	100.0	195	100.0	1218	100.0
Type of Loss Within Attrited Groups										
Experimental Group--χ^2 (3df) = 2.299; p > .05										
Released	70	98.6	167	98.8	395	97.1	124	98.4	756	97.8
Deserted	1	1.4	2	1.2	12	2.9	2	1.6	17	2.2
Total	71	100.0	169	100.0	407	100.0	126	100.0	773	100.0
Control Group--χ^2 (3df) = 6.588; p > .05										
Released	72	85.7	89	83.2	145	78.4	63	91.3	369	82.9
Deserted	12	14.3	18	16.8	40	21.6	6	8.7	76	17.1
Total	84	100.0	107	100.0	185	100.0	69	100.0	445	100.0
Total Group--χ^2 (3df) = 4.741; p > .05										
Released	142	91.6	256	92.8	540	91.2	187	95.9	1125	92.4
Deserted	13	8.4	20	7.2	52	8.8	8	4.1	93	7.6
Total	155	100.0	276	100.0	592	100.0	195	100.0	1218	100.0

Note. Number of missing observations: total losses = 120; type of separation = 99; type of loss = 99.



a. Experimental Group



b. Control Group

Figure 6. Attrition over time by mental group category--Experimental and control groups.

Table 13

Attrition by Recruit Quality Index--Experimental and Control Groups

Item	Recruit Quality Index: ALPHA N	ALPHA Percent	BRAVO N	BRAVO Percent	CHARLIE N	CHARLIE Percent	DELTA N	DELTA Percent	Total N	Total Percent
Total Losses										
Experimental Group--χ^2 (3df) = 15.386; p < .01										
Active	64	32.7	28	19.0	122	33.3	93	24.3	307	28.1
Attrited	132	67.3	119	81.0	244	66.7	289	75.7	784	71.9
Total	196	100.0	147	100.0	366	100.0	382	100.0	1091	100.0
Control Group--χ^2 (df) = 36.595; p < .001										
Active	106	48.4	58	37.4	184	65.5	159	50.0	507	52.2
Attrited	113	51.6	97	62.6	95	34.1	159	50.0	464	47.8
Total	219	100.0	155	100.0	279	100.0	318	100.0	971	100.0
Total Group--χ^2 (3df) = 36.347; p < .001										
Active	170	41.0	86	28.5	306	47.4	252	36.0	814	39.5
Attrited	245	59.0	216	71.5	339	52.6	448	64.0	1248	60.5
Total	415	100.0	302	100.0	645	100.0	700	100.0	2062	100.0
Type of Separation Within Attrited Groups										
Experimental Group--χ^2 (3df) = 3.196; p > .05										
Honorable	114	86.4	96	80.7	212	86.9	240	83.0	662	84.4
< Honorable	18	13.6	23	19.3	32	13.1	49	17.0	122	15.6
Total	132	100.0	119	100.0	244	100.0	289	100.0	784	100.0
Control Group--χ^2 (3df) = 5.185; p > .05										
Honorable	45	39.8	31	32.0	42	44.2	51	32.1	169	36.4
< Honorable	68	60.2	66	68.0	53	55.8	108	67.9	295	63.6
Total	113	100.0	97	100.0	95	100.0	159	100.0	464	100.0
Total Group--χ^2 (3df) = 17.339; p < .001										
Honorable	159	64.9	127	58.8	254	74.9	291	65.0	831	66.6
< Honorable	86	35.1	89	41.2	85	25.1	157	35.0	417	33.4
Total	245	100.0	216	100.0	339	100.0	448	100.0	1248	100.0
Type of Loss Within Attrited Groups										
Experimental Group--χ^2 (3df) = 2.607; p > .05										
Released	131	99.2	117	98.3	239	98.0	280	96.9	767	97.8
Deserted	1	0.8	2	1.7	5	2.0	9	3.1	17	2.2
Total	132	100.0	119	100.0	244	100.0	289	100.0	784	100.0
Control Group--χ^2 (3df) = 6.646; p > .05										
Released	102	90.3	77	79.4	81	85.3	127	79.9	387	83.4
Deserted	11	9.7	20	20.6	14	14.7	32	20.1	77	16.6
Total	113	100.0	97	100.0	95	100.0	159	100.0	464	100.0
Total Group--χ^2 (3df) = 8.119; p < .05										
Released	233	95.1	194	89.8	320	94.4	407	90.8	1154	92.5
Deserted	12	4.9	22	10.2	19	5.6	41	9.2	94	7.5
Total	245	100.0	216	100.0	339	100.0	448	100.0	1248	100.0

Note. Number of missing observations: total losses = 76; type of separation = 69; type of loss = 69.

Table 13 also shows that attrition among men classified as DELTA (traditionally noneligibles who were experimentally accepted for enlistment during January and February 1976) very closely paralleled overall attrition within the entire study group. Twenty-three months after enlistment, 75.7 and 50.0 percent of the DELTAs within the experimental and control groups respectively had attrited, compared to 71.9 and 47.8 percent of the total group. Within the attrited DELTAs, 83.0 and 32.1 percent of the experimental and control groups respectively had been honorably separated, and 3.1 and 20.1 percent had deserted, compared to 84.4 and 36.4 percent and 2.2 and 16.6 percent of the entire group. Thus, it appears that DELTAs, particularly those within the control group, represent no greater an attrition, disciplinary, or desertion risk than non-DELTAs.

No significant differences associated with recruit quality index were found for either the experimental or control group in separation or loss data (Table 13) or in LOS plots (Figure 7).

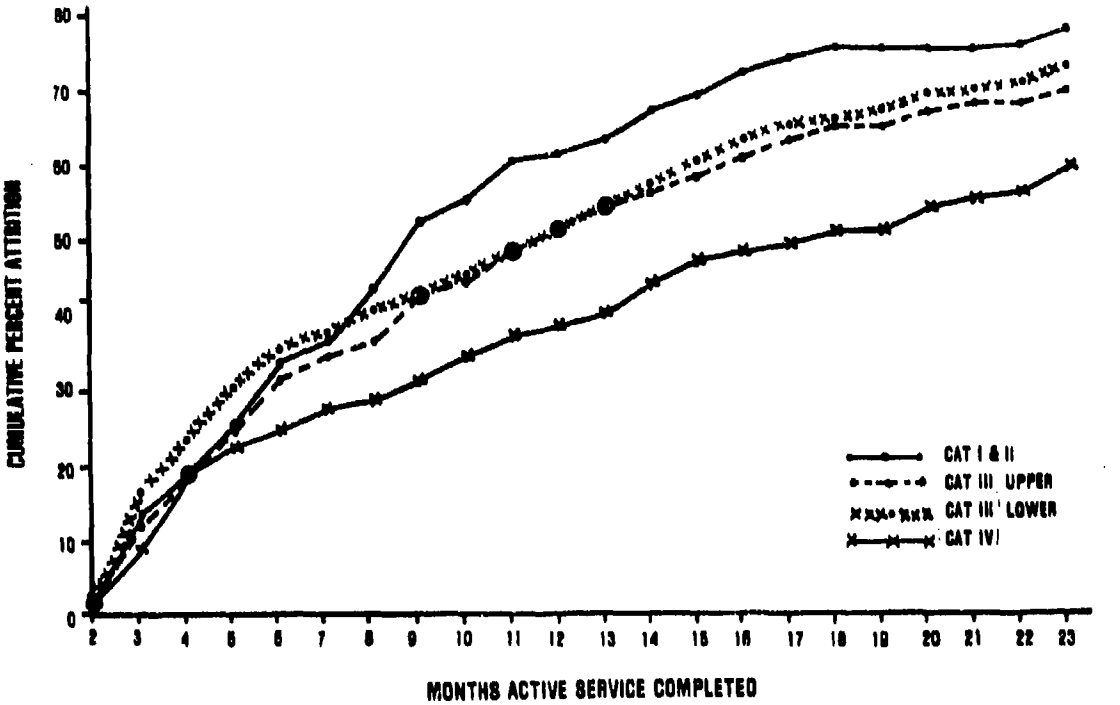
Situational Variables.

1. Entering Rate. Table 14 shows that, 23 months after enlistment, control group members who entered as Seamen had the highest attrition rate; and those who entered as Airmen, the lowest (54.3 vs. 26.8%). No significant differences in overall attrition associated with entering rate were found for the experimental group.

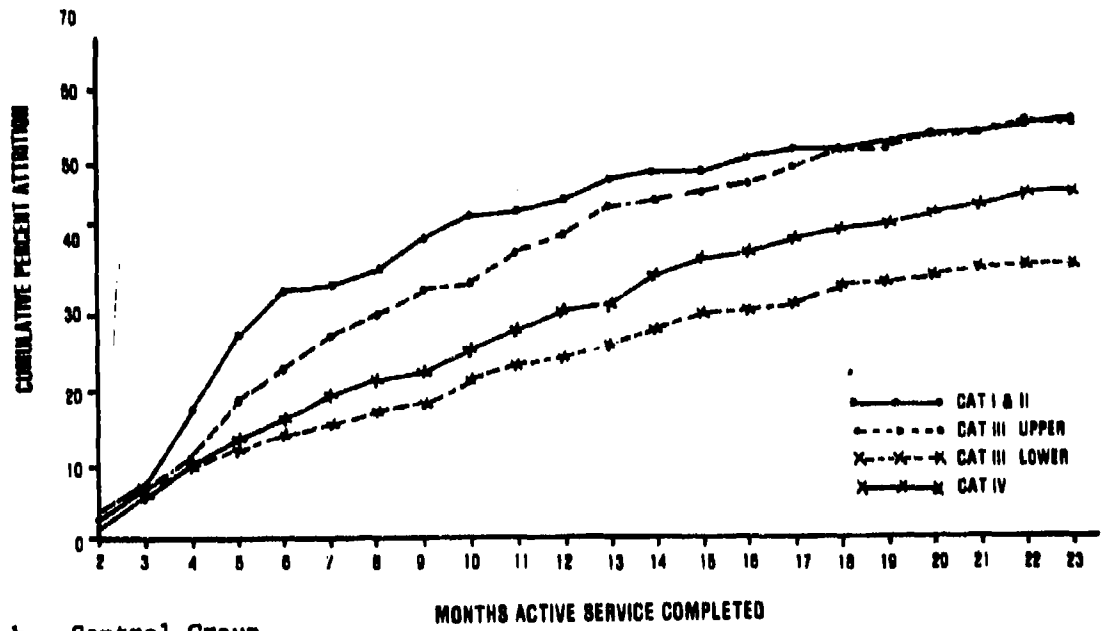
In regard to type of separation, experimental group members who entered as Airmen were most likely to be honorably separated; and those who entered as Firemen, least likely (92.3 vs. 73.7%). For the control group, those who entered as Seamen were most likely to be honorably separated; and those who entered as Firemen, least likely (40.1 vs. 26.0%). Loss data also differed for the two groups. Experimental members who entered as Firemen had the highest desertion rate; and those who entered as Seamen, the lowest (5.3 vs. 1.6%). For the control group, those who entered as Airmen had the highest desertion rate; and those who entered as Firemen, the lowest (27.0 vs. 14.4%).

Figure 8 provides LOS data associated with entering rate. Figure 8.a shows that loss rates in the experimental group during the first 14 months varied among the three rates; however, after that time, a pattern emerged in which Seamen had the highest attrition rate, followed by Firemen and Airmen. This pattern was sustained through the first 23 months of enlistment. Figure 8.b shows that, within the control group, Seamen consistently have had the highest attrition rate, followed by Firemen and Airmen. This relationship has been constant, with the rates becoming more divergent over time.

2. RTC Attended. Table 15 shows that there were no significant differences associated with RTC attended for the experimental group in overall attrition, separation, or loss data. However, within the control group, significant differences were found in overall attrition and loss group data. As shown, the men who attended RTC Orlando had the highest attrition rate; and those who attended RTC San Diego, the lowest (53.3 vs. 42.0%). Further, control desertion rates ranged from 12.4 percent for RTC Great Lakes to 22.5 percent for RTC Orlando.



a. Experimental Group



b. Control Group

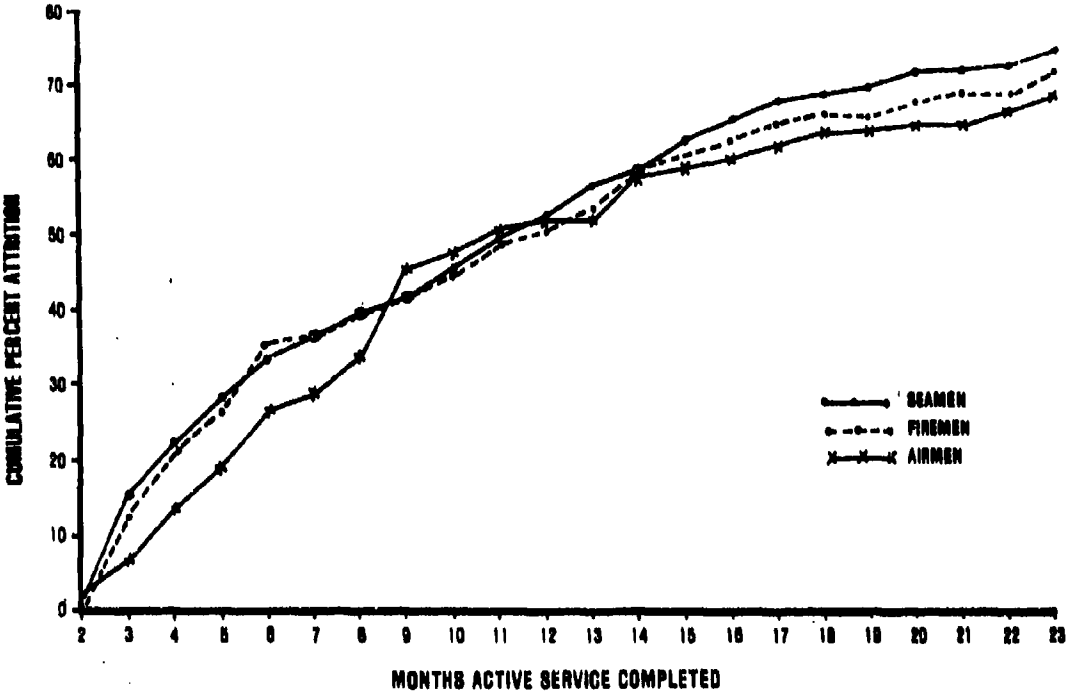
Figure 7. Attrition over time by recruit quality index--Experimental and control groups.

Table 14

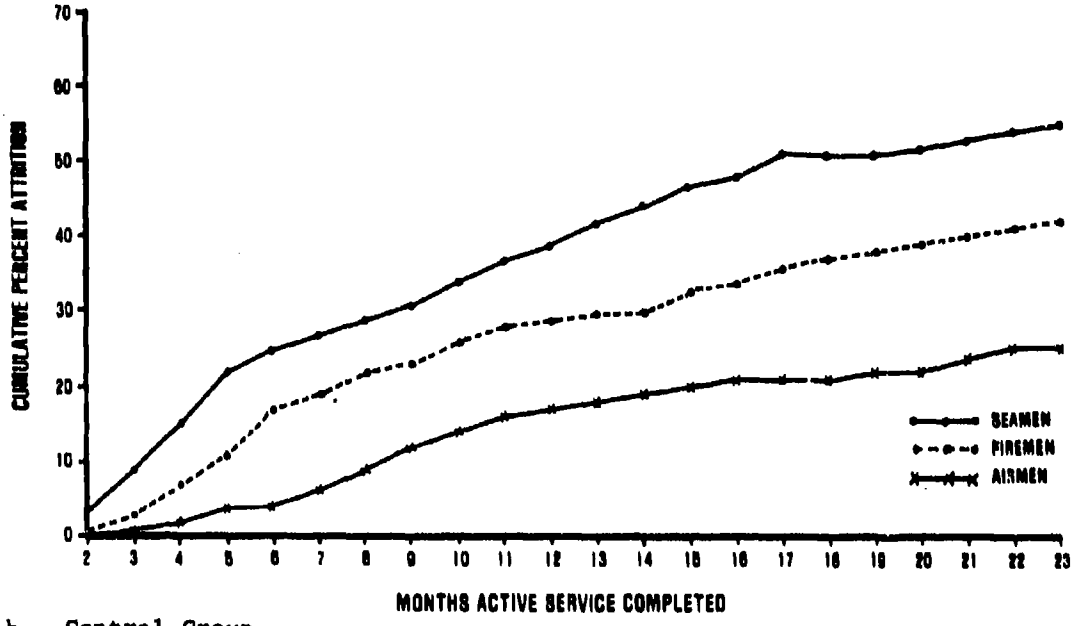
Attrition by Entering Rate--Experimental and Control Groups

Item	Entering Rate: Seaman N	Seaman Percent	Fireman N	Fireman Percent	Airman N	Airman Percent	Total N	Total Percent
Total Losses								
Experimental Group--χ^2 (2df) = 1.847; p > .05								
Active	172	25.3	93	29.0	47	28.7	312	26.8
Attrited	508	74.7	228	71.0	117	71.3	853	73.2
Total	680	100.0	321	100.0	164	100.0	1165	100.0
Control Group--χ^2 (2df) = 36.491; p < .001								
Active	271	45.7	137	56.8	101	73.2	509	52.4
Attrited	322	54.3	104	43.2	37	26.8	463	47.6
Total	593	100.0	241	100.0	138	100.0	972	100.0
Total Group--χ^2 (2df) = 22.850; p < .001								
Active	443	34.8	230	40.9	148	49.0	821	38.4
Attrited	830	65.2	332	59.1	154	51.0	1316	61.6
Total	1273	100.0	562	100.0	302	100.0	2137	100.0
Type of Separation Within Attrited Groups								
Experimental Group--χ^2 (2df) = 17.349; p < .001								
Honorable	412	81.1	168	73.7	108	92.3	688	80.7
< Honorable	96	18.9	60	26.3	9	7.7	165	19.3
Total	508	100.0	228	100.0	117	100.0	853	100.0
Control Group--χ^2 (2df) = 6.776; p < .05								
Honorable	129	40.1	27	26.0	13	35.1	169	36.5
< Honorable	193	59.9	77	74.0	24	64.9	294	63.5
Total	322	100.0	104	100.0	37	100.0	463	100.0
Total Group--χ^2 (2df) = 18.229; p < .001								
Honorable	541	65.2	195	58.7	121	78.6	857	65.1
< Honorable	289	34.8	137	41.3	33	21.4	459	34.9
Total	830	100.0	332	100.0	154	100.0	1316	100.0
Type of Losses Within Attrited Groups								
Experimental Group--χ^2 (2df) = 8.169; p < .05								
Released	500	98.4	216	94.7	114	97.4	830	97.3
Deserted	8	1.6	12	5.3	3	2.6	23	2.7
Total	508	100.0	228	100.0	117	100.0	853	100.0
Control Group--χ^2 (2df) = 3.304; p > .05								
Released	270	83.9	89	85.6	27	73.0	386	83.4
Deserted	52	16.1	15	14.4	10	27.0	77	16.6
Total	322	100.0	104	100.0	37	100.0	463	100.0
Total Group--χ^2 (2df) = < 1; p > .05								
Released	770	92.8	305	91.9	141	91.6	1216	92.4
Deserted	60	7.2	27	8.1	13	8.4	100	7.6
Total	830	100.0	332	100.0	154	100.0	1316	100.0

Note. Number of missing observations: total losses = 1; type of separation = 1; type of loss = 1.



a. Experimental Group



b. Control Group

Figure 8. Attrition over time by entering rate--
Experimental and control groups.

Table 15

Attrition by Recruit Training Command Attended—
Experimental and Control Groups

Item	Recruit Training Command Attended: San Diego N	San Diego Percent	Grt. Lakes N	Grt. Lakes Percent	Orlando N	Orlando Percent	Total N	Total Percent
Total Losses								
Experimental Group--χ^2 (2df) = 1.831; p > .05								
Active	103	30.7	144	26.6	53	27.2	300	28.0
Attrited	232	69.3	397	73.4	142	72.8	771	72.0
Total	335	100.0	541	100.0	195	100.0	1071	100.0
Control Group--χ^2 (2df) = 6.966; p < .05								
Active	170	58.0	219	51.0	105	47.0	494	52.2
Attrited	123	42.0	210	49.0	120	53.0	453	47.8
Total	293	100.0	429	100.0	225	100.0	947	100.0
Total Group--χ^2 (2df) = 6.307; p < .05								
Active	273	43.5	363	37.4	158	37.6	794	39.3
Attrited	355	56.5	607	62.6	262	62.4	1224	60.7
Total	628	100.0	970	100.0	420	100.0	2018	100.0
Type of Separation Within Attrited Groups								
Experimental Group--χ^2 (2df) = < 1; p > .05								
Honorable	196	84.5	335	84.4	120	84.5	651	84.4
< Honorable	36	15.5	62	15.6	22	15.5	120	15.6
Total	232	100.0	397	100.0	142	100.0	771	100.0
Control Group--χ^2 (2df) = < 1; p > .05								
Honorable	47	38.2	68	32.4	47	39.2	162	35.8
< Honorable	76	61.8	142	67.6	73	60.8	291	64.2
Total	123	100.0	210	100.0	120	100.0	453	100.0
Total Group--χ^2 (2df) = 1.500; p < .05								
Honorable	243	68.5	403	66.4	167	63.7	813	66.4
< Honorable	112	31.5	204	33.6	95	36.3	411	33.6
Total	355	100.0	607	100.0	262	100.0	1224	100.0
Type of Losses Within Attrited Groups								
Experimental Group--χ^2 (2df) = 2.200; p > .05								
Released	225	97.0	388	97.7	141	99.3	754	97.8
Deserted	7	3.0	9	2.3	1	0.7	17	2.2
Total	232	100.0	397	100.0	142	100.0	771	100.0
Control Group--χ^2 (2df) = 6.299; p < .05								
Released	99	80.5	184	87.6	93	77.5	376	83.0
Deserted	24	19.5	26	12.4	27	22.5	77	17.0
Total	123	100.0	210	100.0	120	100.0	453	100.0
Total Group--χ^2 (2df) = 7.032; p < .05								
Released	324	91.3	572	94.2	234	89.3	1130	92.3
Deserted	31	8.7	35	5.8	28	10.7	94	7.7
Total	355	100.0	607	100.0	262	100.0	1224	100.0

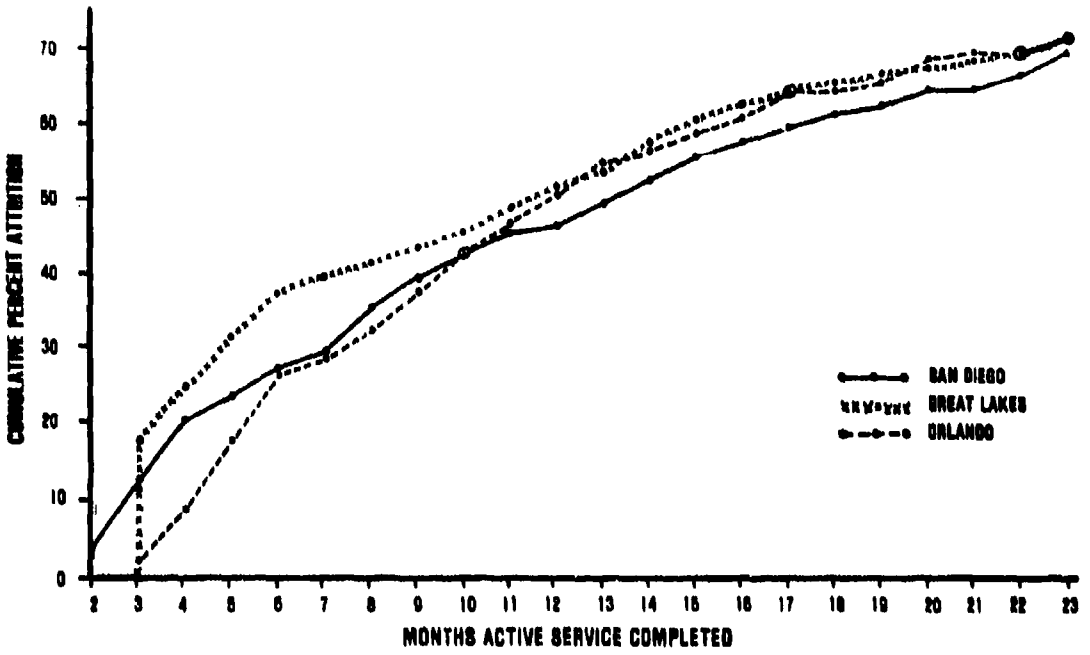
Note. Number of missing observations: total losses = 120; type of separation = 93; type of loss = 93.

LOS data for the two groups are provided in Figure 9. As shown in Figure 9.a, high early losses were sustained by the experimental group among men trained at RTC Great Lakes, and fewer early losses occurred among men trained at RTC Orlando. However, loss rates traced to RTC have converged over time.

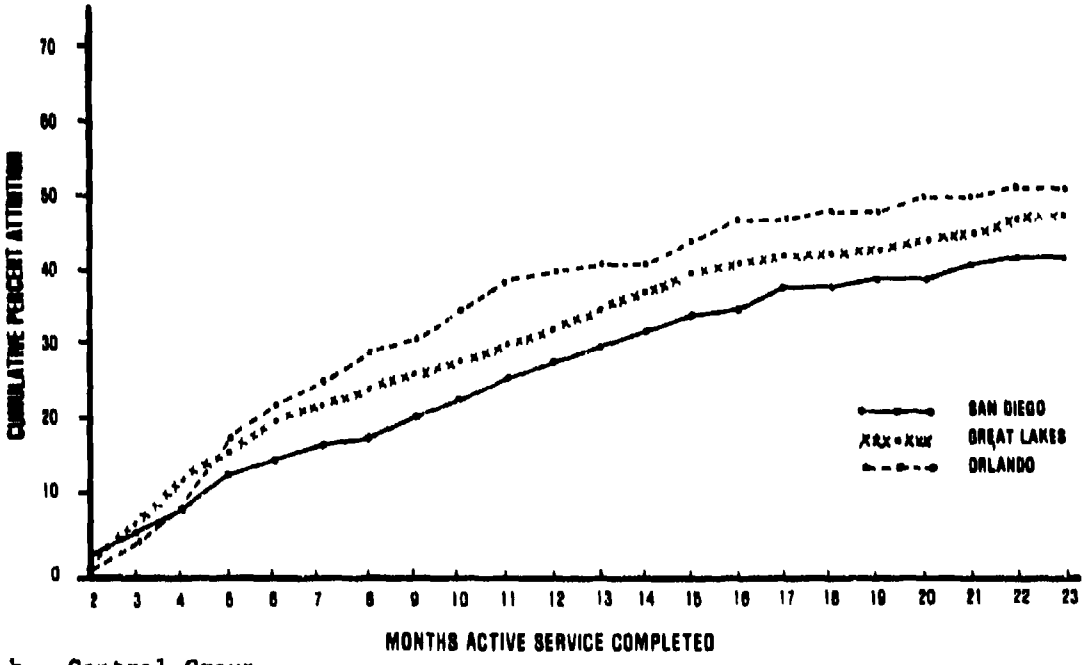
3. Initial Duty Station. Attrition data provided in Table 16 were based on initial assignment data obtained in August 1976, and reflect only attrition subsequent to that date. As shown, 23 months after enlistment, experimental group members who were initially assigned to support ships had the highest attrition rate; and those assigned to air squadrons, the lowest (66.1 vs. 39.3%). For the control group, those assigned to shore stations had the highest attrition rate; and those assigned to air squadrons, the lowest (40.0 vs. 16.1%).

In regard to type of separation, in both groups, those assigned to shore stations were most likely to be honorably discharged; and those assigned to support ships, least likely (100.0 vs. 68.1% for the experimental group, and 41.7 vs. 11.9% for the control group). Desertion rates in the experimental group ranged from zero for those assigned to air squadrons and shore stations to 5.6% for those assigned to support ships. In the control group, desertion rates ranged from 9.5 percent for those assigned to support ships to 37.9 percent for those assigned to aircraft carriers.

BUPERS provided additional data regarding the initial assignments for experimental group members, thus making it possible to assess attrition for this group beginning at the time they first reported to the Fleet (April 1976). Results are provided in Table 17, which shows that total attrition ranged from 76.4 percent for those originally assigned to aircraft carriers to 54.1 percent for those assigned to air squadrons.



a. Experimental Group



b. Control Group

Figure 9. Attrition over time by recruit training center attended--Experimental and control groups.

Table 16

Phase II Attrition by Initial Duty Assignment--Experimental and Control Groups

Item	Initial Duty Assignment: Aircrft Carr. N	Aircrft Carr. Percent	Dest./Cruisr N	Dest./Cruisr Percent	Amphib. Ships N	Amphib. Ships Percent	Support Ships N	Support Ships Percent	Air Squad. N	Air Squad. Percent	Shore Sta. N	Shore Sta. Percent	Total N	Total Percent
Total Losses														
Experimental Group--χ^2 (5df) = 9.70; p > .05														
Active	55	39.9	62	42.8	63	40.6	61	33.9	17	60.7	18	50.0	276	40.5
Attrited	83	60.1	83	57.2	92	59.4	119	66.1	11	39.3	18	50.0	406	59.5
Total	138	100.0	145	100.0	155	100.0	180	100.0	28	100.0	36	100.0	682	100.0
Control Group--χ^2 (5df) = 10.96; p > .05														
Active	98	77.2	48	75.0	96	65.8	92	68.7	26	83.9	36	60.0	396	70.5
Attrited	29	22.8	16	25.0	50	34.2	42	31.3	5	16.1	24	40.0	166	29.5
Total	127	100.0	64	100.0	146	100.0	134	100.0	31	100.0	60	100.0	562	100.0
Total Group--χ^2 (5df) = 11.61; p < .05[a]														
Active	153	57.7	110	52.6	159	52.8	153	48.7	43	72.9	54	56.2	672	54.0
Attrited	112	42.3	99	47.4	142	47.2	161	51.3	16	27.1	42	43.8	572	46.0
Total	265	100.0	209	100.0	301	100.0	314	100.0	59	100.0	96	100.0	1244	100.0
Type of Separation Within Attrited Groups														
Experimental Group--χ^2 (5df) = 14.28; p < .05														
Honorable	69	83.1	65	78.3	73	79.3	81	68.1	10	90.9	18	100.0	316	77.8
< Honorable	14	16.9	18	21.7	19	20.7	38	31.9	1	9.1	0	0.0	90	22.2
Total	83	100.0	83	100.0	92	100.0	119	100.0	11	100.0	18	100.0	406	100.0
Control Group--χ^2 (5df) = 9.46; p > .05														
Honorable	5	17.2	2	12.5	12	24.0	5	11.9	1	20.0	10	41.7	35	21.1
< Honorable	24	82.8	14	87.5	38	76.0	37	88.1	4	80.0	14	58.3	131	78.9
Total	29	100.0	16	100.0	50	100.0	42	100.0	5	100.0	24	100.0	166	100.0
Total Group--χ^2 (5df) = 8.002; p > .05														
Honorable	74	66.1	67	67.7	85	59.9	86	53.4	11	68.8	28	66.7	351	61.4
< Honorable	38	33.9	32	32.3	57	40.1	75	46.6	5	31.2	14	33.3	221	38.6
Total	112	100.0	99	100.0	142	100.0	161	100.0	16	100.0	42	100.0	572	100.0
Type of Loss Within Attrited Groups														
Experimental Group--χ^2 (5df) = 2.10; p > .05														
Released	81	97.6	79	95.2	89	96.7	114	95.8	11	100.0	18	100.0	392	96.6
Deserted	2	2.4	4	4.8	3	3.3	5	4.2	0	0.0	0	0.0	14	3.4
Total	83	100.0	83	100.0	92	100.0	119	100.0	11	100.0	18	100.0	406	100.0
Control Group--χ^2 (5df) = 8.71; p > .05														
Released	18	62.1	11	68.7	39	78.0	38	90.5	4	80.0	18	75.0	128	77.1
Deserted	11	37.9	5	31.3	11	22.0	4	9.5	1	20.0	6	25.0	38	22.9
Total	29	100.0	16	100.0	50	100.0	42	100.0	5	100.0	24	100.0	166	100.0
Total Group--χ^2 (5df) = 4.75; p > .05														
Released	99	88.4	90	90.9	128	90.1	152	94.4	15	93.7	36	85.7	520	90.9
Deserted	13	11.6	9	9.1	14	9.9	9	5.6	1	6.3	6	14.3	52	9.1
Total	112	100.0	99	100.0	142	100.0	161	100.0	16	100.0	42	100.0	572	100.0

Notes. Data presented above were based on initial assignment data obtained in August 1976. At that time, 1458 of the original sample of 2138 still remained on duty. Thus, for this variable, the number of missing observations: total losses = 214; type of separation and type of loss = 0.

[a]Critical value of χ^2 (5df) = 11.07; p = .05.

Table 17

Post-Apprenticeship-Training Attrition by Initial Fleet Duty Assignment—Experimental Group

Initial Duty Station[a]	Initial Assignments N	Initial Assignments Percent of Total Assignments	Active after 23 Months N	Active after 23 Months Percent of Remaining Active	Attrited after 23 Months N	Attrited after 23 Months Percent of Total Losses	Attrition Percent x Initial Duty Station
Aircraft Carriers	233	24.1	55	19.9	178	25.8	76.4
Destroyers/Cruisers	204	21.1	62	22.5	142	20.6	69.6
Amphibious	217	22.5	63	22.8	154	22.3	71.0
Support	229	23.7	61	22.1	168	24.3	73.4
Air Squadrons	37	3.8	17	6.2	20	2.9	54.1
Shore Stations	46	4.8	18	6.5	28	4.1	60.9
Total	966	100.0	276	100.0	690	100.0	71.4

Note. Of the 1165 members of the original experimental sample, 1001 actually reported to their initial duty station assignment. Thus, the number of missing observations for this table equals 35.

[a] χ^2 (5df) = 11.57; $p < .05$.

Performance Ratings/Disciplinary Actions

As indicated previously, Commanding Officers of both experimental and control subjects were asked to rate their present and potential performance during the sixth month of active duty. As shown in Table 18, the availability of a voluntary out option had strong positive effects on the performance of experimental group subjects. The proportion of experimental group subjects receiving ratings of "outstanding" or "above average" was nearly four times as great as the proportion of control group subjects--12.6 and 33.2% vs. 3.2 and 8.2%. Conversely, twice as many control subjects received ratings of "below average" (18.1 vs. 8.1%); and five times as many, "unsatisfactory" (20.8 vs. 4.5%).

Table 18

Performance Ratings--Experimental and Control Groups

	Exper. Group		Cont. Group		Total	
Rating	N[a]	Percent	N	Percent	N	Percent
Unsatisfactory	31	4.5	117	20.8	148	11.9
Below Average	55	8.1	101	18.1	156	12.5
Average	284	41.6	280	49.8	564	45.3
Above Average	226	33.2	46	8.2	272	21.9
Outstanding	86	12.6	18	3.2	104	8.4
Total	682	100.0	562	100.0	1244	100.0

[a] χ^2 (4df) = 217.59; $p < .001$

Note. The above data pertain to the 1458 members of the original sample who still remained on active duty as of August 1976. Thus, the number of missing observations for this table equals 214.

The COs were also asked to list all disciplinary actions noted. Responses showed that the voluntary out option apparently had a positive impact on rates of such actions. The rate of unauthorized absences among the experimental group was 6.1 percent, compared to 12.3 percent for the control group. Also, experimental group members had lower rates in drug-related offenses (1.3 vs. 1.5%), missing ship's movements (0.6 vs. 1.9%), general misconduct (4.6 vs. 5.4%), larceny (.16 vs. .31%), and total nonjudicial punishments (13.5 vs. 16.1%).

Reasons for Leaving the Navy

Experimental group members being separated were asked to indicate, on the Exit Interview Form, the primary reason why they were leaving the Navy. Analysis of 486 such forms showed that 48 percent (N = 234) left because of "unmet expectations" of Navy life. This was followed by "personal problems" (N = 97, 20.0%), and "education and training" (N = 89, 18.3%), which

many thought could be better obtained outside the Navy. Closely related to this latter category are the subcategories "skill acquisition--would not stay in if Navy provided the opportunity" (N = 27, 5.6%) and "skill acquisition--no comment as to whether they would stay in if Navy provided the opportunity" (N = 39, 8.0%). Many of the attritees made general statements of dissatisfaction, such as "this is not the life for me" as their reason for leaving.

DISCUSSION AND CONCLUSIONS

The initial purposes of the pilot program were to assess the effects of a voluntary release option on the rates of attrition, disciplinary actions, and unauthorized absences/desertions among enlisted first-term personnel holding such an option. In addition, on-the-job performance ratings of personnel with the voluntary release option and the impact of accepting for enlistment a sample of recruits who did not meet minimum recruiting standards (i.e., DELTAs) were to be evaluated. Since it was hypothesized that the vast bulk of enlisted personnel turbulence emanated from recruits assigned to general detail duties (GENDETS), it appeared that a voluntary release option could serve as a filter to separate those people who would eventually become problems early in their enlistment term; that is, when the Navy had a minimum investment in them. The goal was to front-load the attrition rate; that is, to sustain heavier early losses with an eventual leveling out of losses over a 4-year period.

The study groups can be generally described as single, young with no dependents, and predominantly Caucasian. Less than half were high school graduates, and their scores on the Armed Services Vocational Aptitude Battery or Basic Test Battery were average. They came from all regions of the U. S. Nearly half were trained at the Recruit Training Command (RTC), Great Lakes; nearly one-third, at RTC San Diego; and the remainder, at RTC Orlando. The experimental group, composed of enlisted men destined for general detail, was first informed of the program and their eligibility for a voluntary release option during their apprenticeship training program. An initial 12 percent of these men opted for immediate discharge; and the remainder, about 1000, reported to the fleet to begin their careers as GENDETS.

At the end of 23 months (December 1977), nearly three-fourths (73%) of the experimental group had elected to leave the Navy, while nearly half (48%) of the control group, which did not have the voluntary release mechanism, had been forced out of the Navy. The majority of those leaving the Navy voluntarily expressed dissatisfactions with Navy life. Apparently, for the individual who enlisted and subsequently was assigned to GENDET duties, the Navy's unique selling propositions--adventure, fun, and challenging jobs--fell somewhat short of reality. Rather, he found himself in a lack-luster, nonglamorous, semi-skilled work environment. It was of little surprise, then, that "unmet expectations" and "limited job opportunities" (reflected in the education and training and skill acquisition categories) were among the chief reasons for requesting Navy discharge. There is no way of knowing whether these attitudes were based on misinterpretations (from recruiting messages and/or recruiter contacts), differing value systems, or some other reason. However, there is no doubt that the GENDET enlisted man's expectations of Navy life and his actual experience of that life are widely disparate, and that the GENDET work milieu, as presently conceived, is not sufficiently attractive to retain a majority of enlistees for a full 4-year term.

Because of the high loss rate experienced in the experimental group, it is clear that a blanket voluntary release opportunity is not a prudent mechanism for controlling and/or front-loading attrition for GENDET enlisted personnel. If the present attrition rate is projected over the remaining 2-year period, it appears that nearly all of this group will be lost via

the pilot program by 1980. However, even though this blanket opportunity has sufficient negative components to preclude its adoption, its redeeming values should be recognized. For example, those with the option had substantially higher performance ratings than those who did not. Recognizing the many unique requirements of naval service, the right to decide to leave a job, especially one possessing minimum positive attributes, is a worthwhile concept that merits further evaluation.

RECOMMENDATIONS

The following recommendations are made for controlling and managing attrition of general detail (GENDET) enlisted personnel:

1. For GENDET duties, target recruitment at older enlistees who have lower academic ability and who have had some experience in the civilian job market following high school.

2. Continue to recruit high school graduates; avoid equating GED certificate holders with high school graduates for attrition prediction purposes.

3. In recruiting prospective GENDETS, attempt to reduce unrealistic expectations for fleet duty.

4. Provide shorter enlistment tours for those assigned to GENDET jobs.

5. Provide special reinforcers for satisfactory performance by GENDETS.

6. Continue to develop noncognitive devices to identify high- and low-risk individuals (i.e., for predicting successful completion of contracted enlistment agreements).

7. Expand and modify apprenticeship training curricula, so that GENDETS are better prepared for and oriented to fleet duty.

8. Provide quality shipboard orientation procedures for newly reporting GENDETS.

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